THE UNIVERSITY OF ALBERTA

INTERNAL-EXTERNAL CONTROL IN THOUGHT SAMPLES, DEFENSIVE STYLES AND OBSERVED INTERPERSONAL BEHAVIORS IN A PSYCHIATRIC POPULATION

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Internal-External Control in Thought Samples, Defensive Styles and Observed Interpersonal Behaviors in a Psychiatric Population," submitted by Dorothy Jean Crouse in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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ABSTRACT

A psychiatric population of 120 Ss, 70 men and 50 women, age 20 - 55 years, less than two years hospitalization, and diagnosed as psychoneurotic, schizophrenic and psychopathic, was divided into External and Internal groups on the basis of their scores on (1) Rotter's I-E Scale and (2) MAPS stories, with a Middle group added for comparison purposes.

The groups were also qualitatively defined by MAPS Dependent and Other-blaming (External) and MAPS Counterdependent and Self-blaming (Internal) themes in their thought samples.

Repressors and Sensitizers (Byrne's R-S Scale) were found in both External and Internal groups, and hypotheses were made concerning their observed interpersonal ward behavior, using Lorr and McNair's IBI - 4 Scale.

It was hypothesized that (1) the Dependent External group would be Sensitizers and would rate highest on the IBI Detachment, Inhibition, Submissiveness and Succorance scales; (2) the Other-blaming Externals would be Repressors and would rate highest on Mistrust, Aggression, Competition and Dominance; (3) Counterdependent Internals would be Repressors and would rate highest on Exhibition, Sociability, Affection and Nurturance; and (4) Self-blaming Internals would be Sensitizers and would rate highest on the Abasement, Deference and Agreeableness scales.

The MAPS Test correlated .65 with the I-E Scale, indicating that the projective technique was a valid measure of I-E control. Only two MAPS theme groups, Counterdependent and Dependent, were identifiable; not enough Self-blaming or Other-blaming themes were produced to form groups. However, Dependent themes were expressed more frequently by I-E Externals ($p < .001$), and Counterdependent themes by I-E Internals ($p < .001$), and Self-blaming and Other-blaming themes by Internals and Externals respectively (although not significantly), all as predicted.

Most MAPS Dependent themes were produced by the External Sensitizers,

and Other-blaming themes by the External Repressors, as predicted, although the trends were not significant. Contrary to prediction, most MAPS Counterdependent themes were produced by the Internal Sensitizers, and Self-blaming themes by the Internal Repressors, although not significantly more often.

Hypotheses concerning the IBI variables were not verified. Although not significant, there were some tendencies which appeared to be suggestive of differences. The External Sensitizers were aggressive individuals; the External Repressors were affectionate and inhibited; the Internal Repressors were submissive; and the Internal Sensitizers were nurturing. Of the four groups the Internal Sensitizers appeared to be most "normal" in their MAPS themes and observed interpersonal behaviors, contrary to the prediction that Internal Repressors would be most normal.

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INTRODUCTION

The major focus of the present study was on the relationship between the attitude of internal versus external control, and the forms that maladjustment can take. This examination, although partly exploratory, was guided by several hypotheses stimulated by Lorr's work (Lorr and McNair, 1965; Lorr and Suziedelis, 1969) on the forms of patient behavior, and expanded by the writer's clinical intuition.

This chapter will review the literature on the Internal-External control orientation (hereafter referred to as I-E); the research that has been done on the relationship between I-E and symptom types; and Lorr and McNair's work on the isolation on factors in psychiatric patient behavior. We will further briefly look at the MAPS (Make A Picture Story) test as an alternative measure of I-E control which will permit further differentiation within the Internal and External groups, and the R-S scale as a possible aid in interpreting hypothesized outcomes.

Internal Versus External Control Orientation

During the past decade several investigators have suggested the importance of attitudes of personal freedom or personal control over one's own destiny in affecting behavior (Rotter, 1966; Brehm, 1966; and de Charms, 1968). The most significant of these suggestions in terms of the amount of research it has generated has been that of Rotter (1962, 1966).

The notion of a personal attitude of internal or external control stems from Rotter's Social Learning Theory (1954). Learning and behavior in this theory, as with many current learning theories, are seen to be controlled by reinforcements. In Rotter's theory, however, behavior is not seen as directly controlled by these reinforcements, but rather the relationship is mediated by the expectancy that the reinforcement will be contingent on the response. In other words, behavior is a function of the perceived contingency between behavior and the outcome (reinforcement).

> The role of reinforcement, reward, or gratification is universally recognized by students of human nature as a crucial one in the acquisition and performance of skills and knowledge. However, an event regarded by some persons as a reward or reinforcement may be differently perceived and reacted to by others. One of the determinants of this reaction is the degree to which the individual perceives that the reward follows from, or is contingent upon, his own behaviour or attributes versus the degree to which he feels the reward is controlled by forces outside of himself and may occur independently of his own actions. The effect of a reinforcement following some behavior on the part of a human subject, in other words, is not a simple stamping-in process, but depends upon whether or not the persons perceives a causal relationship between his own behavior and the reward . . . . When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labelled this a belief in external control. If a person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control (Rotter 1966; p.1).

Rotter proposes that this expectancy, attitude or orientation is a variable of "major significance" in psychology.

This expectancy can be influenced both by immediate situational factors and by developmental experiences which have a cumulative and enduring effect. The former influences have received some attention in the literature (Lefcourt, 1966; and de Charms, 1968), but are not of major concern here. It is the enduring attitudes of either internal or external control that have received the most attention in the literature (Heider, 1958; Angyal, 1965; Rotter, 1966; Lefcourt, 1966; Hersch & Scheibe, 1967; de Charms, 1968; and Tiffany, Shontz & Woll, 1969) and which are of central concern to us. These attitudes have been operationally defined for research purposes by the Internal-External Orientation scale developed by Phares (1955) and James (1957) and refined by Rotter, Seeman and Liverant (1962).

The internally oriented individual is described theoretically as having a strong trend toward autonomy and personal freedom and a sense of effectiveness in everyday living (Angyal, 1965; Lefcourt, 1966; Rotter, 1966; de Charms, 1968; and Wall, 1970). He likes to feel control over his own behavior (Tiffany, Shontz & Woll, 1969; and Carroll, 1969) and prefers to work in situations where he can be personally committed and can provide some of his own incentives (Weick, 1964; Brehm, 1966; and de Charms, 1968). There may be some correlation between internality and achievement (Atkinson & Litwin, 1960; Horowitz, 1961; Rotter, 1966; de Charms, 1968; Buck, 1970; and Lao, 1970).

Empirical research has lent some support to this theoretical picture. The Internal likes to feel control over the outcome of a task and over his own behavior (Myers, 1964; Blauner, 1966; Tiffany, Shontz & Woll, 1969; and Miller, 1970); overtly strives for achievement (Atkinson & Litwin, 1960; Horowitz, 1961; Franklin, 1963; Rotter & Mulry, 1965; Phares, 1968; Gurin et al, 1969; and Lao, 1970); and is perceptually and cognitively alert (Lefcourt, Lewis & Silverman, 1968; Lefcourt & Wine, 1969; and Buck, 1970). He takes calculated risks (Crowne & Liverant, 1963; and Krauss & Blanchard, 1970); will lose some of his commitment to a course of action when offered too much praise (Brehm, 1966); and may even be better motivated when deprived of extrinsic incentive (Weick, 1964; and Deci, 1971). He values reinforcements for skill more than chance (Ude & Vogler, 1969); and will conform under mild pressure to comply, but will rebel under moderate or high pressure (Brehm & Werner, 1966; Rotter, 1966; and Strickland, 1970). He feels more motivated when he is in relatively unstructured situations (de Charms et al, 1965; and Kuperman, 1967).

Through attribution, the Internal tends to assume that others are Origins (de Charms et al, 1965; and Wall, 1970); and when he is perceived by others as an Origin they will continue to treat him as one (Strickland, 1958). He sees himself as independent, self-confident, enthusiastic, self-controlled and insightful (Hersch & Scheibe, 1967; and Tolor and Reznikoff, 1967); and scores high on measures of achievement, dominance, endurance, sociability and well-being (Hersch & Scheibe, 1967); and on self-regard and self-actualizing scales (Wall, 1970).

By contrast, the externally oriented individual is described theoretically as

being passive in the face of environmental difficulties. He feels unable to control his own destiny, attributes successes and failures to chance or luck or other factors beyond individual control; and feels powerless and ineffective in everyday living (Angyal, 1965; Lefcourt, 1966; Rotter, 1966; de Charms, 1968; Darlington, 1969; and Carroll, 1969).

Research has again demonstrated some support for this picture. The External either has weak motivation in achievement situations (Atkinson & Litwin, 1960; Horowitz, 1961; Gurin et al, 1969; Buck, 1970; and Lao, 1970) or is an unsuccessful striver (Rotter et al, 1962). He shows less evidence (than Internals) of cognitive activity with reference to learning personally relevant information (Davis & Phares, 1967; Phares, 1968; Lefcourt & Wine, 1969; Carroll, 1969; and Miller, 1970); is an erratic risk taker and tends to show the "gambler's fallacy" reaction (Lefcourt, 1968; and Ude & Vogler, 1969). He prefers to work in structured situations where orders are given (Cromwell et al, 1961).

The External describes himself either in a diffuse way or uses many unfavorable terms (Butterfield, 1964; Hersch & Scheibe, 1967; Abramowitz, 1969; and Williams & Nickels, 1969). He is apt to be dogmatic (Clouser & Hjelle, 1970) and to show attitudes of interpersonal suspiciousness, blaming and mistrust (Miller & Minton, 1969; and Phares & Wilson, 1971). He may be more easily manipulated and suggestible than the internally oriented individual (Getter, 1966; and Strickland, 1970), and may show more attitude change when receiving communication from a high-prestige source (Ritchie & Phares, 1969).

Internal-External Control and Adjustment

Lefcourt (1966a, 1966b) has stressed the importance of the I-E control construct for the understanding of psychopathology as well as effective behavior, and its relevance for psychotherapy, drawing attention to the "learned helplessness" hypothesis (Bettelheim, 1952; and Elkins, 1961), and accommodation to decreased opportunity for personal control, and to the similar views of the Adlerians (Ansbacher & Ansbacher, 1956) regarding the lazy child. Lefcourt concluded that perceived control is a useful variable and may be related to problems such as psychopathology, apathy and withdrawal phenomena.

> Many forms of deviant behavior recognized as symptoms of psychopathology may profitably be described as resulting from a disbelief that efforts to behave in socially constructive, approved ways would be successful. This is not to say that locus of control provides a singular, simple, causal explanation for incompetence. Rather, locus of control may be one of several necessary correlates of competence. It is to be noted that this is actually not a unique formulation but one that has been advanced by Adlerians as well as by sociologists concerned with problems of normlessness and anomie (Merton, 1957; 1964).
>
> Since an internal locus of control may be one prerequisite of competent behavior, and an external-control orientation seems common to many people who do not function in a competent 'healthy' manner, it would seem that perceived control should have some importance as a goal for psychotherapy.
>
> In Adlerian theory where discouragement, or external control is an important part of psychopathology, encouragement, or a shifting toward belief in personal control, indeed becomes important for psychotherapy. Encouragement would often be the creation of an internal-control situation for the patient. Speaking of the treatment of 'discouraged' children Adler stated, one must bring them 'through various devices to the point where they necessarily acquire faith in their own mental and physical powers.... One must put tasks in their way which they can accomplish, and from the accomplishment of which they can gain faith in themselves' (Ansbacher & Ansbacher, 1956) (Lefcourt, 1966b, p.191).

A fundamental issue in I-E research is whether the I-E control orientation is linearly or non-linearly related to maladjustment. A recent review of the literature (Joe, 1971) indicated that most authors report a linear relationship between I-E control and maladjustment; at the same time, Hersch and Scheibe (1967) have proposed either a complex or a curvilinear relationship. All three viewpoints have been supported by theory and research.

In support of the linear side of the issue, internality has theoretically and consistently been linked with social adjustment, mental health, ego control and personal achievement, while externality has been linked with social maladjustment, emotional disturbance and underachievement (Merton, 1946; Reissman, 1967; Adler,

1964; Lefcourt, 1966; and de Charms, 1968).

The linear position has found support in various studies already mentioned (Cromwell et al, 1961; Seeman, 1963; Sherif & Sherif, 1964; Lefcourt, 1966; Carroll, 1968; Tiffany, Shontz & Woll, 1969; Ude & Vogler, 1969; Buck, 1970; Wall, 1970; and Burns, Brown & Keating, 1971). Several studies have shown a significant relationship between externality and various self-report measures of anxiety (Feather, 1967a; Platt & Eisenman, 1968; Hountras & Scharf, 1970; and Nelson & Phares, 1971); hostility (Williams & Vantress, 1969); and depression (Abramowitz, 1969). Butterfield (1964) found that external control was positively related to intropunitive responses to frustration and negatively related to constructive reactions to frustrations.

Externally oriented individuals have been found among psychotic and schizophrenic Ss (Bialer, 1961; Cromwell et al, 1961; Shybut, 1968; and Harrow & Ferrante, 1969); process (as opposed to reactive) schizophrenics (Lefcourt, 1966); and emotionally disturbed adolescents (Tiffany & Shontz, 1963). As Joe (1971) has pointed out, the theoretical and empirical evidence for a linear relationship between I-E control and maladjustment is convincing.

Joe's (1971) review of the literature also presented theory and research in support of the non-linear views of internality-externality. In contrast to the linear argument for the relationship between externality and maladjustment, Rotter (1966); Hersch and Scheibe (1967) and Fontana et al (1968) have suggested that the relationship between I-E scores and adjustment is not linear; that it may be either curvilinear or complex.

According to the curvilinear theoretical position, individuals at the extreme ends of the I-E scale might be more maladjusted than individuals in the middle range (Rotter, 1966; and Joe, 1971). Rotter proposed that ego control might bear some curvilinear relationship to the I-E dimension in that individuals at either extreme of the reinforcement dimension could be essentially unrealistic in dealing with reality. There has been some research evidence in support of the curvilinear hypothesis. Both Internals and Externals have been found in alcoholic groups (Goss & Moroska, 1970; and Gozali and Sloan, 1971); and in hospitalized addict populations

(Carroll, 1968, 1969; and Berzins, Ross & Cohen, 1970). Neither Bohm's (1970) nor Kish, Solberg and Vecker's (1971) group of hospitalized psychiatric patients differed from normal groups in variability on the I-E scale. Further research could perhaps clarify the unclear relationship of the I-E continuum to psychopathology, as seen, for example, in the apparently contradictory findings that depressives are both Internal (Harrow & Ferrante, 1969) and External (Williams & Nickels, 1969; and Abramowitz, 1969). While the evidence for a curvilinear relationship between I-E control and psychopathology is not overwhelming, enough suggestive data does exist to warrant continued attempts to explore the possibility of such relationships.

Aside from looking for simple curvilinear relationships between I-E and maladjustment, further differentiation among Internals and Externals might have explanatory import for various kinds of psychopathology. Several theorists have made suggestions for studying the possible diversity at each end of the I-E continuum. Rotter (1966), Hersch and Scheibe (1967) and Fontana et al (1968) have suggested the possibility of a complex relationship with diversity in the psychological meaning of internality and externality; and a need for further theoretical and empirical differentiation. Rotter (1966) feels that one of the main difficulties in studying the I-E orientation is its unclear relationship to ego control (realistic versus unrealistic orientation). Coan (1966) suggested that an attempt should be made to assess the extent to which a person considers external forces to be benevolent, malevolent or indifferent, and that research should examine whether these forces are social, physical or indeterminate.

Hersch and Scheibe (1967), finding that Internals were more homogeneous on test performance than were Externals, and that Externals were more diffuse in describing themselves, suggested a diversity in the psychological meaning of externality.

> For example, one may be an External individual because he is in fact physically or intellectually weak in relation to those around him. On the other hand, a person may describe himself as an External because he is in a highly competitive situation, where the actions of others may have great relevance for the success of his own efforts. Both of these orientations may be described as simultaneously realistic and pessimistic,

> yet there are other possible conditions that could be antecedents to an External orientation. If a person believes in luck or fate, and if he further believes that these external forces are on his side, he may accurately describe himself as an External. Further, a person may develop feelings of persecution, with or without reason. Both of these orientations would be described as relatively unrealistic, while the former would be optimistic and the latter pessimistic (Hersch & Scheibe, 1967, p. 613).

Angyal's (1965) holistic theory appears to have some relevance for the issue of linear versus more complex I-E relationships with adjustment. According to Angyal, neurosis can be either a lack of or an excess of autonomous striving (internality), and either a lack of or an excess of homonomy and/or heteronomy (externality). This state of affairs can be created by the person himself and perpetuated through an unfortunate self-concept. Such concepts, real or distorted, have a profound effect on the perceptual field of the individual through selective perception (Rogers, 1959; and Leeper & Madison, 1959). Unfortunately, these theoretical formulations have been largely neglected by I-E researchers.

While there is evidence that both extremes of the I-E dimension are frequently found in a psychiatric population, and there has been some theoretical speculation about differentiation amongst Internals and Externals respectively, there have been few attempts at empirical differentiation.

Exploring the possibility of a complex relationship between I-E control and adjustment, Fontana et al (1968) found that schizophrenics who wanted to impress upon others that they were healthy and well adjusted were more Internal on the I-E scale, while schizophrenic patients who wanted to impress upon others that they were sick and could not be held accountable for their behavior were more External. Joe (1971) has interpreted this to mean that an individual's goals can influence the direction of his belief regarding locus of control.

Two studies (Hochreich, 1969; and Miller, 1970) attempted to divide Internals and Externals into sub-groups: defensive versus true Externals, and social desirability versus true Internals, but they were not readily identifiable as distinct groups. While their attempts to differentiate Internal and External groups were not

successful, their approach to the problem seems to have merit for further research, from both theoretical and empirical viewpoints.

There is a need for further I-E research in two major areas: (1) the relationship of the I-E variable to psychopathology and (2) further differentiation within Internal and External groups. The present study attempts to focus on both of these major areas, approaching them from a non-linear viewpoint, and taking into consideration both the curvilinear and complex hypotheses regarding the relationship between internality-externality and adjustment.

The MAPS Test as a Measure of Internal-External Control

Questionnaire items are not sufficient to tap all major aspects of experienced control. According to Coan (1966), Lasker (1966) and de Charms (1968), the most appropriate way to measure the internal-control variable is the technique of thought sampling, or tapping spontaneously emitted thoughts rather than eliciting controlled responses on a forced-choice questionnaire such as the I-E scale.

Dies (1968) chose to use thought samples as an alternative measure of I-E control and concluded that the more unstructured nature of the TAT projective he used gave it the advantage over the I-E scale of providing increased sensitivity to individual differences and significant interpersonal and intrapersonal concerns as they related to the I-E dimension.

The usual methods of analyzing TAT and MAPS thought samples bear a close resemblance to I-E perceived control philosophy. Murray's (1943) need-press analysis and Stein's (1953) further elaboration provided a method of judging the comparative strength of forces emanating from the TAT hero and the forces arising from the environment. Shneidman's (1951) I-E related interpretative system for the TAT and MAPS were later refined by Witkin et al (1954). Dies (1968) developed a measure of degree of perceived locus of control, using Witkin's scoring method, and rating the I-E control variable (in TAT stories) along a five-point continuum; this method of rating was used for MAPS protocols in the present study.

Dies found that Internals (as defined by Rotter's I-E scale) reported significantly more TAT narratives manifesting belief in personal control, while Externals expressed a generalized expectancy of outside control; this projective measure correlated .44

with the I-E questionnaire.

Projective measures have been used successfully in other I-E related research (Witkin et al, 1954; Douvan & Walker, 1956; Gore, 1962; Tiffany & Shontz, 1962, 1963; Adams-Webber, 1963; and Tiffany, 1965). Battle and Gore's (1963) Children's Picture Test of Internal-External control, a cartoon-like projective, correlated .42 with Bialer's (1961) Locus of Control scale for children. Tiffany and Shontz (1962) also used cartoon-type projective stimuli with preadolescents and concluded that their Picture Q Technique yielded reliable and valid response measures of experienced control.

In a recent study Lefcourt and Steffy (1970) found significant correlations (varying from .36 to .52) between internality (as demonstrated by nine I-E related performance tasks) and appropriate sex-theme responses on a projective measure consisting of TAT cards and Kagan-Moss sexual stimuli cards (Kagan & Moss, 1962).

The MAPS test (Shneidman, 1948, 1949, 1951) was chosen as the projective measure for the present study. The MAPS is even less structured than the TAT in that the S can create and develop a variety of person-environment and interpersonal situations. He can express and reflect how he perceives his environment, what he can (or cannot) do, how he feels in a situation and how he copes (or does not cope) with the situation. He is free to express the part played by both internal and external forces and how he goes about maintaining (or not maintaining) a balance between these forces. According to Bellak (1951), the MAPS gives the subject more freedom to express his concerns than does the TAT. The MAPS presents an opportunity for personal involvement on the part of the S, and while not being directly interpersonal, can be assumed to have the interpersonal and person-environment implications which have been indicated by Angyal (1965) as being relevant for internal-external control research. For these reasons the MAPS was chosen as the projective measure to be used in this study.

MAPS stories were assessed in terms of Internal-External control, and were also differentiated into Counterdependent and Self-blaming (Internal) and Dependent and Other-blaming (External) themes in an attempt to explore the diversity in the psychological meaning of internality and externality.

According to Angyal (1965), one example of excessive autonomy could be

rebelliousness and rejection of any influence exercised by others; this counter-dependency represents the psychoneurotic's wish to be completely independent of others and to prove himself. His orientation may be a reaction against being babied, or a projection against being destroyed as a self-determining individual. It seems likely that counterdependent psychoneurotics, antisocial personalities and grandiose schizophrenics might express their self-assertiveness through excessive autonomy. These Internals would produce MAPS stories designated as having Counterdependent themes.

Rotter's (1966) statement that the Internal with a history of failure must blame himself leads to a second example of internality that might be found among depressed and self-blaming psychoneurotics and schizophrenics. These Internals could produce Self-blaming MAPS themes

The External individual has been described as passive and ineffective in everyday living; unable to control his own destiny (Angyal, 1965; Rotter, 1966; Lefcourt, 1966; and de Charms, 1968); and dependent on authority (Elkins, 1961; and Cromwell et al, 1961). Arieti (1955) has described the catatonic schizophrenic as a dependent, compliant person who is unable to make decisions and whose ability to will is severely impaired. Angyal (1965) described "external" psychoneurotics similarly. Externals would likely be found among passive, dependent psychoneurotics, depressives, and catatonic schizophrenics, and these subjects would produce MAPS stories having Dependent themes.

Another External individual blames his difficulties on "Objective" external forces, invites exploitation by others (Angyal, 1965), and may develop feelings of persecution (Hersch & Scheibe, 1967). Hostile, other-blaming psychoneurotics, antisocial personalities, depressives and paranoid schizophrenics could conceivably express hostility and blaming tendencies toward the environment, seeing it as threatening and themselves as unable to do anything about it. The blaming is "pseudo-active," covering a more basic passivity and ineffectiveness. These Externals would produce Other-blaming MAPS story themes.

It was hoped that the MAPS story situations would provide for a closer look at possible diversity within Internal and External psychiatric groups, i.e., the degree of perceived internal versus external control; and the presence of counterdependent,

self-blaming, dependent and other-blaming themes and their relation to the I-E dimension.

Interpersonal Behavior and Internal-External Control

In their comprehensive model of psychological control, Tiffany, Shontz and Woll (1969) indicated the importance of social learning theory, psychoanalysis, ego psychology, self theory and social psychiatry in the understanding of person-environment interaction and perceived locus of control. For example, Rogers (1959) proposed a self-theory that has as its primary focus an increase in self-determination and purposeful control of one's own behavior and over the environment. In Rogers' theory the most important forces in one's environment are interpersonal experiences, since the self-structure is dependent upon the organism's evaluative interaction with others.

The importance of interpersonal and person-environment situations and feelings in developing and reinforcing the individual's perceived locus of control has been emphasized by Leeper and Madison (1959), Lecky (1945) and Snygg and Combs (1959). The individual's self-structure originates largely in early interpersonal experiences, is reinforced by interpersonal and environmental feedback, and has a tendency to be perpetuated. A fortunate or unfortunate, real or distorted, frame of reference has a profound effect on the perceptual field of the individual, through selective perception. These selective perceptions have an extraordinary power in interhuman relations, according to Angyal (1965), and for that reason, if we want to study the selective perceptions of persons with disturbed autonomy, then the assigned research task should have interpersonal implications; since the impairment will manifest itself in interaction with others. Horney (1945), Fromm (1947), Sullivan (1947) and Arieti (1955) also emphasized the role of faulty interpersonal behavior in psychoneurotic, psychotic and personality disorders.

If interpersonal situations are vital aspects of the human environment, then it seems reasonable that a fruitful research area would be one where the S could demonstrate in what way his selective perceptions along the I-E dimension influence his perceptions of interpersonal interactions and situations, particularly those which he can play a major role in creating for himself. The personal investment of interest

and energy in a task which has some relevance to him is, in de Charms' opinion, important in I-E related research.

There is an obvious difficulty and probable criticism of research attempts to follow through on I-E perceived control attitudes from paper-and-pencil tests and thought samples to their expression in overt action; it is often difficult to demonstrate the expected relationship between the tests and the behavior. Questionnaires and thought samples dealing with judgments, perceptions, attitudes and beliefs do not necessarily make accurate predictions regarding overt action, or even commitment to overt behavior. Even when the content of the thought samples are focused on interpersonal interactions and situations, the likelihood of their being acted upon in an actual social situation is not certain. At the same time, Coan (1966) and Rotter (1966) believe that it should be possible to demonstrate some relationship between attitudes and behavior, and more effort should be made to do so by I-E researchers.

De charms (1968) and Kuperman (1967) have pointed out another obvious difficulty: that of attempting to study behavior resulting from free choice in a laboratory situation where the fact that he has been drafted, that he has to submit himself to the experimenter's wishes, and that he has been given ego-involving instructions, can interfere with the S's individual commitment and restrict his freedom of choice and personal investment.

Despite these two major difficulties, the importance of additional I-E research on the behavioral level has been stressed by Angyal (1965), Coan (1966), Dies (1968), de Charms (1968) and Joe (1971), all of whom have noted the importance of attempting studies concerning the relationship between the locus of control variable and interpersonal processes.

Some I-E researchers have attempted to study the relationship between questionnaires or thought samples and (a) behavioral measures (de Charms et al, 1965; and Kuperman, 1967); (b) social action (Gore & Rotter, 1963; and Strickland, 1965); and (c) experimentally altered I-E related behavior (Lefcourt & Ladwig, 1965; and Lefcourt & Wine, 1969).

The studies of internal-external attitudes and social action by Gore and Rotter (1963) and Strickland (1965) indicated that the I-E scale was able to predict the

degree of commitment behavior manifested to effect social change. A significant and predictable relationship between I-E attitudes and overt action was also found in two studies involving the ward behavior of hospitalized patients (Seeman & Evans, 1963) and reformatory inmates (Seeman, 1963).

Lefcourt's (1966) review of the literature reported very few investigations involving methods for altering external-control related behavior. Externals were helped to behave more effectively through linking new tasks to older areas of success (Lefcourt & Ladwig, 1965), and through being briefed regarding opportunities for success (Lefcourt, 1967).

While I-E studies of behavioral reactions to threat and/or social stimuli have been encouraging, they have been inconclusive, according to Joe (1971). For example: Liverant and Scodel (1960), and Krauss and Blanchard (1970) found that Internals were more cautious in risk-taking behavior; Baron's (1968) study indicated that Internals were more willing to take risks; while no relation between I-E control and risk-taking behavior was reported by Lefcourt and Steffy (1970), and Minton and Miller (1970). Further research in the relationship of I-E attitudes to behavior is clearly needed.

Internal-External Control and the Interpersonal Behavior Inventory

Before effectively controlled research can be done, some system of categorizing interpersonal behaviors must be created. Several such classification systems have been developed by La Forge and Suczek (1955); Leary and Coffey (1958); Leary (1957); Schutz (1958); and Lorr and McNair (1963, 1965).

The interpersonal Behavior Inventory (IBI-4, Lorr & McNair, 1965) was used in this study. It was anticipated that the IBI-4 scales would demonstrate how the internal-external diversity seen in the thought samples of Internals and Externals was also expressed in their observed interpersonal behaviors. The choice of a rating scale of observed interpersonal behavior was based on the fact that the study was an exploratory one, and it was felt that the IBI would provide a wide range of interpersonal behaviors, and their relationships with the I-E variable would hopefully generate hypotheses for more specific interpersonal studies in the future. Another reason for using the IBI was that Ss could be rated without their being aware of the

observation and rating; their daily ward activities and interpersonal relationships would not be disrupted; and they would not be able to try to influence the study by faking sickness or health, as had been the case in the study by Fontana et al (1968).

In a review of interpersonal behavior rating scales Wiggins (1968) recommended Lorr and McNair's IBI-4 as an impressive instrument for the assessment of interpersonal behavior in psychiatric patients. The scale, based on factor analysis of therapists' evaluations of patients' interpersonal behaviors, has gone through successive revisions to provide stable ratings. In its present form the IBI provides a mapping of a postulated complete interpersonal circumplex, with 15 interpersonal behaviors represented in 140 descriptive statements. The rater indicates how often the person being rated exhibits the behavior in question. Interpersonal categories are labelled as follows: Dominance, Competition, Aggression, Mistrust, Detachment, Inhibition, Submissiveness, Succorance, Abasement, Deference, Agreeableness, Nurturance, Affection, Sociability and Exhibition. The categories are related to each other in a circular order.

The IBI-4 has not yet been linked with the I-E dimension in research. Inspection of the 140 IBI items led to hypotheses concerning expected interpersonal behaviors on the part of the four MAPS groups, and the IBI circle was divided into four theoretical quadrants for that purpose (see Figure 1). It was proposed that diversity within Internal and External groups would be expressed in terms of interpersonal behavior in a psychiatric hospital setting, with the four MAPS groups being differentiated in terms of their "observed interpersonal behaviors."

Hypotheses were formulated which attempted to predict how the attitudes and thought samples of each MAPS group would be expressed in that group's observed interpersonal behaviors. The formation of the theoretical quadrants was based partly on clinical intuition regarding which IBI variables would likely cluster together; and partly on the results of two factor analyses by McNair and Lorr (1965) and Lorr and Bishop (1965), who found that psychiatric patient groups were differentiated from one another on the basis of high and low ratings on certain IBI scales.

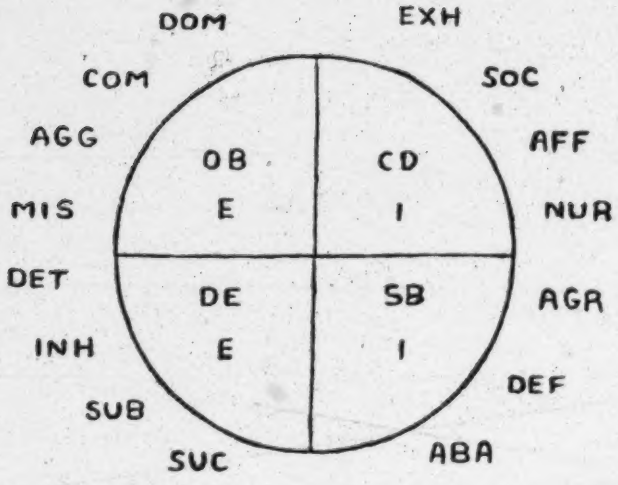


Figure 1. Theoretical quadrants in the IB1-4 circle.

It was hypothesized that the Counterdependent Internal group ("CD,I" in Figure 1) would be rated highest on those interpersonal behaviors which fall in the upper right quadrant of the IB1 circle. For example, the Counterdependent Internal person should express his self-reliance and self-assertiveness in the following items: turning conversations in the direction of his ideas and accomplishments (Exhibition); taking the initiative in making new acquaintances (Sociability); expressing affection openly and directly through words, gestures and contact (Affection); and giving help or counsel to people who are having difficulty (Nurturance). Of the four groups, the Counterdependent group would be expected to have the most "normal" responses. The "normal" group in McNair and Lorr's (1965) study and the "responsible, friendly" group in Lorr and Bishop's (1965) study were both rated high on Nurturance, Affection and Sociability.

Since the IB1 scales are related to each other in a circular order, the

Counterdependent group would theoretically be expected to be rated lowest on those scales in the opposite left quadrant. This negative correlation was found in McNair and Lorr's study; the normal group was rated lowest on Passive dependency (similar to Submissiveness) and Succorance. Lorr and Bishop's responsible, friendly group was rated low on Detachment, Inhibition and Succorance.

In contrast to the Counterdependent group, it was hypothesized that the Dependent External group ("DE,E" in Figure 1) would be rated highest on those interpersonal behaviors which fall in the lower left quadrant. The Dependent person could express his passivity and dependence in these sample items: avoiding involvement or participation in group efforts (Detachment); showing signs of discomfort or self-consciousness in the presence of authority figures (Inhibition); letting others assume charge of things even though the responsibility is his (Submissiveness); and trying to get others to make decisions for him (Succorance). McNair and Lorr found that their "passive dependent" group was rated highest on Detachment, Passive Dependency (Submissiveness) and Succorance. This same group was rated lowest on the Nurturance and Affection scales which fell, as expected, in the opposite quadrant. (Lorr and Bishop combined their "self-effacing" and "submissive" groups; their study did not include a comparable dependent group).

It was hypothesized that the Other-blaming External group ("OB,E" in Figure 1) would be rated highest on those interpersonal behaviors which fall in the upper left quadrant of the IBI circle. Their other-blaming tendencies could be expressed in the following items: using, exploiting or manipulating others for his own ends (Dominance); reacting competitively to others even in friendly social situations (Competition); showing impatience or intolerance of others' mistakes or weaknesses (Aggression); and saying people criticize or blame him unjustly (Mistrust). Although McNair and Lorr, and Lorr and Bishop, had no comparable group in their studies, their "hostile mistrustful" groups were rated highest on Hostility (similar to Aggression) and Mistrust.

The Other-blaming External group was expected to be rated lowest on those scales in the opposite lower right quadrant. The expected inverse relationship was found in both McNair and Lorr's, and Lorr and Bishop's, studies, where hostile, mistrustful groups were rated lowest on Abasement and Agreeableness.

In contrast to the Other-blaming group, it was hypothesized that the Self-blaming Internal group ("SB,I" in Figure 1) would be rated highest on those IBI scales in the opposite lower right quadrant. Self-blaming tendencies would be expressed in such sample items as: accepting or assuming blame when things go wrong (Abasement); taking the role of helper or supporter of authority fugures (Deference); and carrying out his share of common tasks or assignments (Agreeableness). McNair and Lorr's "intropunitive friendly" group was rated highest on Abasement and Agreeableness. This last group was rated low on Mistrust, Hostility (Agression) and Dominance; these scales fell in the opposite left quadrant, as anticipated.

According to the figure, Externals would theoretically be rated highest on the left quadrant scales, while Internals would be rated highest on right quadrant scales. Those scales in the right quadrant appear to reflect interpersonal behaviors where the individual assumes more responsibility for himself and others, is more self-assertive, and interacts more openly with others; while the left quadrant scales appear to reflect interpersonal behaviors characterized by passivity, lack of self-assertiveness, lack of responsibility for himself and others, and difficulties in interacting openly with others. It was hypothesized that Externals would be rated highest on left quadrant scales, while Internals would be rated highest on those scales in the right quadrant.

An assumption in the present study was that a group scoring highest in a particular quadrant would score lower in the adjoining ones and lowest of all in the opposite quadrant. Lorr and Bishop found this to be the case; for example, subjects who rated high on Nurturance, Affection and Sociability scales (Counterdependent) rated lower on Hostility, Mistrust and Detachment scales (Other-blaming), as well as on Agreeableness, Deference and Abasement scales (Self-blaming); and lowest of all on the Detachment, Inhibition and Succorance scales (Dependent).

Some overlap between quadrants was anticipated. A Counterdependent subject might be rated high on these items: using, exploiting, or manipulating others for his own ends (Dominance, adjoining left quadrant); and carrying out his share of common tasks or assignments (Agreeableness, adjoining right quadrant). A Self-blaming Internal subject could be rated high on these items from adjoining quadrants: showing signs of discomfort or self-consciousness in the presence of authority figures

(Inhibition); and giving help or counsel to people who are having difficulty (Nurturance). Where there was overlap, it would probably be from adjoining rather than opposite quadrants.

Internal-External Control and Repression-Sensitization

The Repression-Sensitization continuum was another, although minor, variable in the study. Briefly, it was hypothesized that Repressors would be found in both the Counterdependent Internal and Other-blaming External groups; while Sensitizers would be found in both the Self-blaming Internal and Dependent External groups. It was felt that the R-S variable might assist in further clarification of the diversity within both Internal and External groups.

The R-S scale (Byrne, 1961), referring to different types of defensive patterns (repression, denial and rationalization versus intellectualization, obsessive behaviors and ruminative worrying) and based on 156 MMPI items, has been used in I-E research (Tolor & Reznikoff, 1967; Altrocchi et al, 1968; Lipp, Kolstoe & James, 1968; and Carroll, 1968). Like the I-E scale, both linear and non-linear relationships with adjustment have been proposed for the R-S scale, with evidence to support both theoretical stands.

While Byrne (1961, 1964) advanced the theoretical viewpoint that each end of the R-S continuum represented an extreme of the two defensive modes (over-intellectualization of conflicts versus denial of them), and therefore the R-S scale would be expected to have a curvilinear relationship with various indices of psychological adjustment, he found that the bulk of the research evidence strongly suggested a linear relationship between sensitizing defenses and maladjustment (Joy, 1963b; Byrne, Golightly & Sheffield, 1965; Lipp et al, 1968; Mayo et al, 1971; Foulds & Warehime, 1971; and Clark & Neuringer, 1971).

In support of Byrne's original non-linear viewpoint, Kaplan (1967) found that both extreme Repressors and Sensitizers were rigid in their judgments. No R-S differences in response to interpersonal attack were found by Bootzin and Stephens (1967); nor could Grebstein (1967) find any R-S differences in perceptual defense. Research by Schill and Black (1969), Baker and King (1970) and Kahn and Schill (1971) has also supported Byrne's non-linear view.

The theoretical position taken in the present study was that of non-linearity, with the expectation that Repressors and Sensitizers would be found in both the Internal and External groups, and the ways in which they differed from each other would help to clarify and validate the diversity in the I-E continuum.

Several research studies have supported the belief that Repressors are more repressing than Sensitizers and are more likely to forget failure (Efran, 1963; and Carroll, 1968); score higher on CPI scales of self-control, good impression, achievement and intellectual efficiency (Byrne, Sheffield & Golightly, 1965); are apparently more efficient and exhibit greater leadership (Cohen & Foerst, 1968); have considerable facility in interacting with others (Berquist, 1971); express a more positive (sometimes spurious) self-concept (Unger, 1971); will seek information about themselves (Khol, 1971); attribute less hostility to themselves and to others (Altrocchi et al, 1960); and are more self-actualizing (Foulds & Warehime, 1971). This group of Repressors resembles our conception of Counterdependent Internals.

Another type of Repressor would be the individual who, when faced with environmental difficulties, blames others or outside forces rather than admit possible inadequacies. He will not verbally admit disturbance when faced with a stressor (Lazarus & Alfert, 1963); and will use denial, repression and rationalization (Bryne, 1964; and Baldwin, 1970) to project blame away from himself. For these reasons, it was hypothesized that these Repressors would be found in the Other-blaming External group.

Sensitizers may be ruminative worriers (Byrne, 1964); are more likely to be self-critical and guilt-ridden than Repressors (Weissman & Ritter, 1970; and Mayo, Walton & Littman, 1971); have a more negative self-concept (Berquist, 1971; and Unger, 1971); rate themselves as depressed (Zung & Gianturco, 1971); and attribute more hostility to themselves (Altrocchi et al, 1960). These Sensitizers should therefore be found in the Self-blaming Internal group.

Finally, it was hypothesized that more Sensitizers than Repressors would be found in the Dependent External group. Sensitizers are apparently less motivated toward achievement, are not leaders, tend to solicit sympathy and are more dependent on others for emotional support (Baldwin, 1970; and Weissman & Ritter, 1970). They indicate that they enjoy behavior which they believe may bring

unpleasant consequences (Altrocchi et al, 1960); and will readily intellectualize (Byrne, 1961) and indicate verbally that they are disturbed when faced with a stressor (Lazarus & Alfert, 1963).

While the R-S variable was introduced into the study primarily for the purpose of gaining more understanding of the diversity within perceived control orientations, there was an expectation that it would contribute to the research that Byrne (1964) suggested was needed regarding the role of repression-sensitization in interpersonal situations and behavior.

Summary and Hypotheses

The main purpose of the study was to help clarify the relationship of the I-E variable to psychopathology, focusing on diversity in both internality and externality and the expression of this diversity in both thought sampling and observed interpersonal behaviors in a psychiatric population. A secondary purpose of the study was to explore the relationship of the repression-sensitization dimension to the I-E variable, again focusing on diversity in both internality and externality.

The major hypotheses advanced for this study were:

(1) that Externals would be rated highest on the eight left-quadrant scales (Dominance, Competition, Aggression, Mistrust, Detachment, Inhibition, Submissiveness and Succorance); while Internals would be rated highest on the seven scales in the right quadrants (Abasement, Deference, Agreeableness, Nurturance, Affection, Sociability and Exhibition) of the IBI circle;

(2) that Counterdependent Internals would be rated highest on the Exhibition, Sociability, Affection and Nurturance scales of the IBI; Self-blaming Internals would be rated highest on the Abasement, Deference and Agreeableness scales; Dependent Externals would rate highest on the Detachment, Inhibition, Submissiveness and Succorance scales; and Other-blaming Externals would be rated highest on the Mistrust, Aggression, Competition and Dominance scales;

(3) that Repressors and Sensitizers would be found in both the Internal and External groups; Repressors would be found in both the Counterdependent

Internal and Other-blaming External groups; while Sensitizers would be found more frequently in both the Dependent External and Self-blaming Internal groups.

The minor hypotheses for the study were:

(1) that Internals in a psychiatric population would produce MAPS stories reflecting perceived internal control; while the stories of Externals would reflect perceived external control on the part of the central figures;

(2) that Internal Ss' perceived control would be expressed by either Counterdependent or Self-blaming themes; while External Ss' perceived control would be expressed by either Dependent or Other-blaming themes in the MAPS stories. An outline of the expected relationship is given in Figure 2.

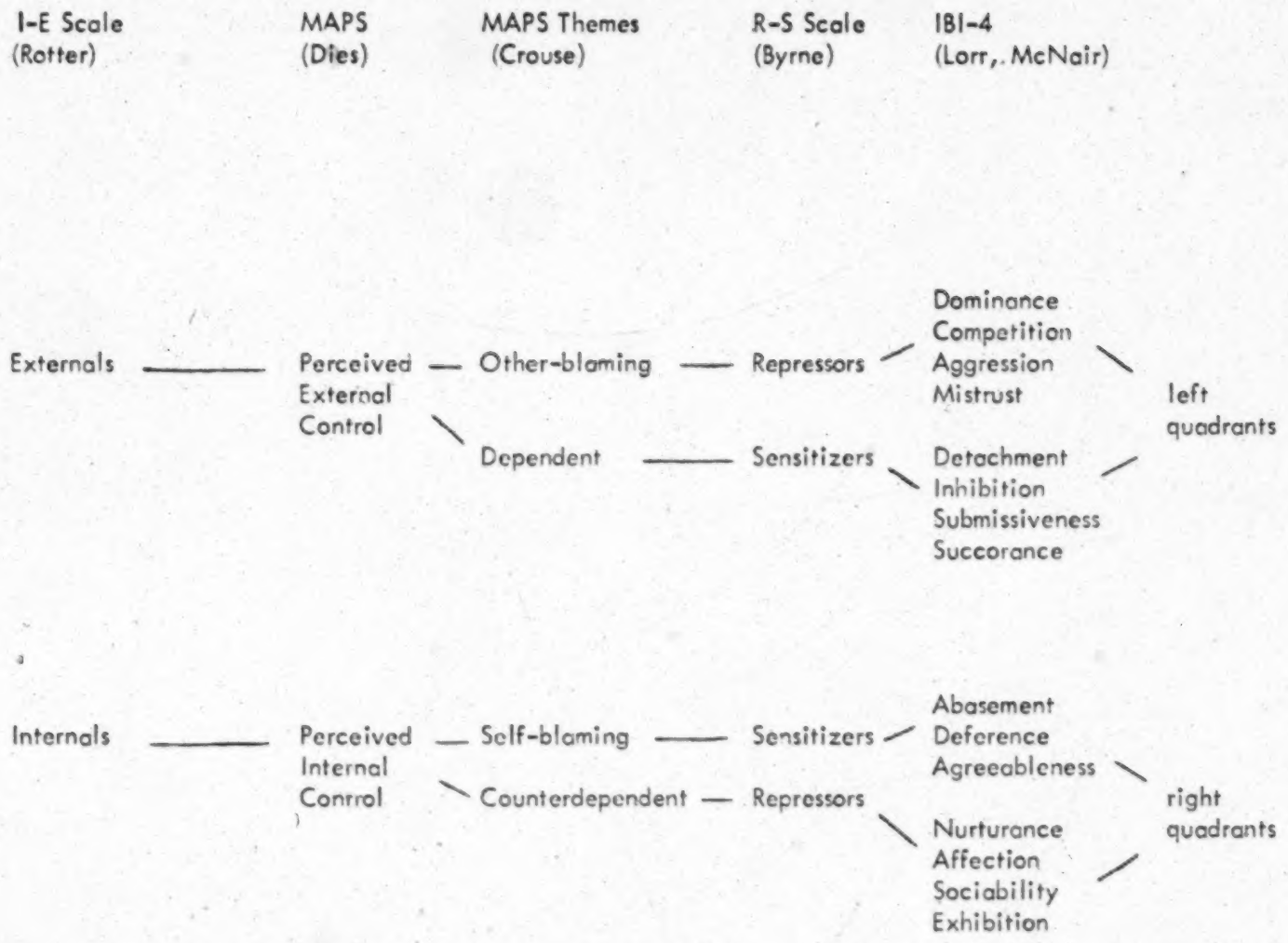


Figure 2. Outline of the Present Study

METHOD

Subjects

The Ss were 120 psychiatric patients from the Alberta Hospital, Ponoka. An original group of 160 patients was divided into three groups of 40 External, 40 Middle and 40 Internal locus of control groups (according to Rotter's I-E Scale), discarding 20 Ss whose I-E scores fell between the External and Middle groups and 20 Ss whose scores fell between the Middle and Internal groups. All Ss were of average or above intelligence; with a total length of hospitalization not exceeding two years; and with any psychiatric diagnosis excluding organicity. The total group consisted of 70 males and 50 females, ranging in age from 20 - 55 years.

Materials

Materials included the I-E Scale (Appendix A); MAPS test (Appendix B); R-S Scale (Appendix C); IBI-4 inventory (Appendix D); WAIS Vocabulary test (Appendix E); and a manual for scoring MAPS degree of perceived control and themes (Appendix F). Specific details for scoring the MAPS stories and themes are outlined in the manual.

Procedure

Each S was given the MAPS test, followed by the WAIS Vocabulary subtest and the R-S scale. He was also rated (by others) on the IBI-4 scales.

For the MAPS administration the S was seated at a table with a top large enough to accommodate the 67 MAPS figures, and was read the following instructions:

> What I am going to do is show you these pictures.
> Take your time and look through them.

The E gave the S the 22 background pictures and then began to place some of the figures on the table top, saying:

> You will have figures like this and your job is to
> take one or more of any of these figures and put

> them on any background picture of your choice, as they might be in real life. You might start by spreading the figures out on the table so that you can see each one.

After all the figures were placed in whatever arrangement the S had chosen, and the S had looked at all the background pictures, the E continued:

> Now I would like to go over the instructions in a little more detail. As I said, your job is to take one or more of any of these figures, put them on the background as they might be in real life. Then tell a story about the situation you have made. In telling your story tell me who the characters are, what has led up to the present situation, what the characters are doing and thinking and feeling and how the whole thing turns out. In other words, your story will have a past, present and future. Go ahead.

The E recorded the story verbatim and recorded the S's choice and placement of test figures on the Figure Location Sheet (see Appendix B). The E then asked the S about any aspect of the instructions that had been omitted in the story, such as how it turned out or what happened, or the thoughts and feelings of the characters, and encouraged the S to complete the story. After the first story was completed according to instructions, E then said:

> That was good. In your other stories you may use either the same or different figures, and any background of your choice. You are going to tell eight stories in all. Go ahead.

Inquiries from the S were answered by repeating the instructions, by telling him that he could interpret the background pictures or figures in any way he wanted, or by telling him that it was entirely up to him. No time limit was placed on the test. The instructions were essentially those outlined by Shneidman (1948), with the exception that the S could pick his own background pictures, and was limited to eight stories.

The I-E scale and R-S scale were self-administered and contained instructions for the S (see Appendix A, C). The WAIS Vocabulary subtest was administered by the E, using standard instructions (Wechsler, 1949).

The IBI procedure consisted of contacting the ward areas and asking for a rating on each S. The rating was done by the trained staff member (nurse, social

worker, psychologist or doctor) who was most familiar with the patient's ward behavior and his behavior in individual and/or group psychotherapy. The E met with the rater, read the IBI-4 instructions to the rater and answered any enquiries regarding the rating procedure. All ratings were completed within one week from the time the S had been given the other tests.

Experimenter Effect

Experimenter effect was controlled by having a person other than the E score the I-E scales and assign Ss to External, Middle and Internal groups. The E did not know the Ss I-E scores prior to the administration and scoring of the MAPS. IBI raters were unaware of each S's I-E score.

Independent checks of scorer and rater reliability were carried out for the MAPS scoring and IBI ratings. Another psychologist rated a random sample of 30 MAPS protocols, after reading the MAPS manual. The product moment correlation between the two judges for the 240 individual stories was .86 ($p < .001$) and all ratings were either equal or within one scale point of each other, reflecting good inter-rater reliability.

The IBI inter-rater reliability check indicated a correlation of .82 ($p < .001$) between two judges for 30 randomly selected patients. In all cases the second judge rated the patient within a week of the first rating. All judges, both first and second raters, were familiar with the patient's ward behavior.

RESULTS AND DISCUSSION

In this chapter the results of the various analyses of the data will be covered. For convenience and, hopefully, increased clarity of presentation, each section will be followed by a brief discussion. A more general discussion and conclusions will follow in the fourth chapter.

The sections of this chapter will deal with the following topics: (1) the I-E scale and the MAPS test and the relationship between the two tests; (2) the R-S scale and its relationship with the other variables in the study; (3) the IBI scale, its descriptive characteristics and factor analyses of the IBI variables in the present study, and a comparison between the present factors and those found by Lorr; (4) the relationship of sex, age, intelligence and diagnostic categories to I-E control; and (5) discriminatory analyses of the major patient groups using the IBI scales as discriminants.

The I-E Scale and the MAPS Test

In the first chapter the MAPS test was suggested as an alternative measure of perceived I-E control: a desirable alternative in that it would allow more discrimination of patients at the extremes of the I-E dimension. A number of studies have demonstrated the potential usefulness of projective measures in I-E related research (Witkin et al, 1954; Douvan & Walker, 1956; Gore, 1962; Tiffany & Shontz, 1962, 1963; Battle & Rotter, 1963; Adams-Webber, 1963; Dies, 1968; and Lefcourt & Steffy, 1970). However, the MAPS test has apparently not been used in these studies.

The I-E scale scores for the original group of 160 Ss were rank-ordered and the three I-E groups were formed by assigning the upper range of 40 I-E scores to the External group; the lower range of 40 I-E scores to the Internal group; the middle 40 to the Middle group; and discarding 20 Ss whose I-E scores fell between the External and Middle groups and the remaining 20 Ss whose scores fell between the Middle and Internal groups.

Ss were divided into six groups: External, Middle and Internal on each of the two tests - MAPS and I-E scale. Of course, if the expected relationship between the two tests were evidenced in the data, there would be considerable overlap in membership in the respective External, Middle and Internal groups on the two tests. The three groups from each of the tests were formed in essentially the same way: (1) those with high I-E or high MAPS scores (Externals); (2) those with low I-E or low MAPS scores (Internals); and (3) those whose scores fell between the other two groups (Middles). To avoid confusion in reporting and interpreting results, all MAPS groups will be distinguished from I-E groups by being designated as such, i.e., MAPS External, MAPS Middle and MAPS Internal groups.

The range, mean, standard deviation and skewness of the overall raw scores for the I-E scale and the MAPS test for all 120 Ss are shown in Table 1. Neither distribution of overall scores was skewed, and the means and standard deviations were approximately equal.

TABLE 1

Range, Means, Standard Deviations and Skewness of the I-E Scale and MAPS Test

	Descriptive Statistics					
Variable	Range	Mean	Standard Deviation	Standard Deviation of the Mean	Skew	P
I-E Raw Scores	1.00 - 19.00	9.63	4.04	0.37	0.73	0.53
MAPS Raw Scores	15.00 - 35.00	25.33	4.10	0.37	-0.96	0.66

Neither the Externals nor the Internals as determined by the I-E scale had skewed distributions, although the Middle group was skewed somewhat toward the high end of the scale (see Table 1, Appendix G). The External and Internal groups

indicated a tendency toward heterogeneity of variance (Hartley F_{max} = 4.04/2.10 = 1.92, df = 39, K = 2, $p > .05$), while significant heterogeneity of variance was indicated among the three groups together (Hartley F_{max} = 4.04/0.35 = 11.5, df = 39, K = 3, $p < .01$; Hartley, 1940). The much reduced range of the Middle group was partly due to the pre-selection of Ss by discarding the 40 Ss whose scores lay above and below the Middle group.

The employment of the MAPS test to form three MAPS groups gave a degree of confirmation of the grouping done employing the I-E scale (see Table 2, Appendix G). Neither the MAPS Externals nor the MAPS Internals had skewed distributions. The MAPS External and MAPS Internal groups indicated a tendency toward heterogeneity of variance (Hartley F_{max} = 10.24/5.76 = 1.78, df = 39, K = 3, $p > .05$). As with the I-E groups, this may be an artifact of the MAPS categorization procedure.

The overall correlation between the I-E scale and the MAPS test ($r = .65$; Table 3) was significantly high, verifying the expectation that the MAPS technique would provide similar scores and would be a valid measure of I-E control. Of the 40 Externals on the I-E scale, 29 Ss were MAPS Externals as well, the remaining 11 Ss were MAPS Middles; 26 of the 40 I-E Middles were also MAPS Middles; with the highest corresponding scores being in the Internal group, where 33 Internals on the I-E scales were also MAPS Internal Ss, while the remaining seven Ss were MAPS Middles.

Discussion. An overall correlation of .44 between the I-E questionnaire and his newly devised projective measure of the same dimension led Dies (1968) to conclude that his method of rating TAT protocols along a five-point continuum, using Witkin et al's (1954) scoring system, lent some construct validity to the I-E control variable and provided a technique which would prove helpful in overcoming some of the shortcomings inherent in the questionnaire. The range of applicability of the I-E variable, in his opinion, was restricted by the I-E scale's inability to make the finer discriminations which Coan (1966) proposed would improve I-E research, i.e., items measuring whether external forces were social, physical or indeterminate; benevolent, malevolent or indifferent. Coan has argued that the I-E scale focuses too narrowly on social and political events and incorporates relatively few

statements regarding personal habits, traits, goals or lifestyles. In contrast, the TAT procedure allows Ss to introduce a broader spectrum of situations and responses, including the significant interpersonal and intrapersonal concerns not tapped by the questionnaire. Using his TAT scoring technique Dies was able to correctly classify 80% of the students in his sample according to their scores on the I-E scale.

Because the MAPS is even less structured than the TAT and, according to Shneidman (1951) and Bellak (1951), gives the individual the freedom to express a potentially wider range of intrapersonal, interpersonal and person-environment concerns, it was anticipated that MAPS test scores, using the Dies scoring system, would reflect more of the S's I-E beliefs than would TAT scores. The .65 correlation between the MAPS test and the I-E scale verified the expectation. It would appear that the more spontaneous the thought samples in a projective measure, the higher the correlation with the I-E scale. The writer is not aware of any other I-E related studies using the MAPS test; this finding is speculative and open to further research.

The MAPS test and I-E scale appear to be independent measures of perceived I-E control, assuming that both tests are in fact measuring perceived I-E control. The extensive body of research already quoted in the first chapter has attempted to demonstrate the validity and reliability of the I-E scale as a measure of the control construct. Reliability measures for the I-E scale have been consistent (Rotter, 1966; Hersch & Scheibe, 1967; and Harrow & Ferrante, 1969) for intervening time periods varying from one month to two months, with internal consistency estimates of reliability ranging from .65 to .79 (Joe, 1971).

In his review of the literature Joe (1971) has reported that good discriminant validity for the I-E scale has been indicated by low correlations with intelligence (Strickland, 1962; and Hersch & Scheibe, 1967). However, contrary to Rotter's claims, the I-E scale does not appear to be totally free of the social desirability set (Feather, 1967a; Altrocchi et al, 1968; and Berzins, Ross & Cohen, 1970). Sex differences (Feather, 1968) and political views (Mirels, 1970) may also be related to item choice on the I-E scale. At the same time, Joe's (1971) review stated that the bulk of the findings in regard to personality characteristics tend to form an orderly cluster which is logically and theoretically consistent with the construct of I-E

control.

The reliability and validity of the MAPS and other projective techniques as measures of the control construct have not yet been researched in any depth. The study by Dies (1968) showed the most significant relationship between projective techniques and internality-externality. Like Dies, Battle and Gore (1963) and Tiffany and Shontz (1962) concluded that their projective measures (for children) yielded valid and reliable response measures of experienced control. Lefcourt and Steffy (1970) came to the same conclusion regarding their TAT and Kagan-Moss sex-theme measure.

The use of projective measures in future I-E research is clearly warranted; although the number of studies is limited, those reported in the literature have confirmed the expectancy of a positive correlation between the I-E questionnaire and thought sampling by means of a projective technique, and strongly suggest that projective measures are valid and reliable indicators of the control construct.

The fact that the present sample of psychiatric patients was readily divided into External, Middle and Internal groups on the basis of either their I-E or MAPS raw scores and that there was considerable overlap between the two tests in terms of group membership provided important validation for the MAPS test as a measure of perceived internal and external control; provided further validation for the I-E scale, and also opened the possibility for a non-linear relationship between perceived locus of control and maladjustment (Rotter, 1966; Hersch & Scheibe, 1967; Fontana et al, 1968).

MAPS Themes in the I-E Groups

The introduction of MAPS themes was for the purpose of exploring the possible diversity within the I-E External and Internal groups. According to the qualitative criteria of classification, each MAPS story could be assessed as either Counterdependent, Self-blaming or Neutral if it were a MAPS Internal perceived control story; and could be either Dependent, Other-blaming or Neutral if it were a MAPS External perceived control story. Each S was assigned to one of the four groups on the basis of the theme category into which the majority of his eight

stories fell. The expectation was that four groups could be formed on this basis and could provide further exploratory differentiation of internality and externality.

The attempt to examine the possible diversity within I-E groups by means of four MAPS themes met with only partial success; only two distinct MAPS groups were identifiable. Analysis of the MAPS stories showed that the entire population of 120 Ss fell into either of two MAPS groups: Counterdependent Internal (50%) or Dependent External (50%), according to the 960 themes which were assessed in the protocols. The distribution of MAPS themes for the I-E External, Middle and Internal groups is shown in Table 2. Although 30 Self-blaming and 104 Other-blaming MAPS themes were produced, not enough stories of either category were produced within individual protocols or within groups to make up Self-blaming or Other-blaming groups. Consequently, the major analysis concerned Counterdependent Internal and Dependent External groups, and the second major hypothesis could be only partially tested.

Of the Self-blaming themes, the largest number was produced by the I-E Internal group, representing 73.3% of the total MAPS Self-blaming themes and 6.9% of the total Internal group's MAPS themes. The I-E External group produced the largest proportion of the Other-blaming themes: 67.3% of the total MAPS Other-blaming themes and 21.9% of the total External group's MAPS themes. This distribution of MAPS themes in the I-E Internal and External groups respectively was of course expected, since a MAPS Self-blaming (or Other-blaming) theme would automatically occur in a story with a MAPS Internal (or External) raw score, and these MAPS raw scores had a high correlation with I-E raw scores.

Two simple analyses of variance of MAPS Counterdependent theme scores and MAPS Dependent theme scores across the three I-E groups (see Appendix G, Tables 3 and 4) revealed that significantly more Ss with high Counterdependent theme scores were in the I-E Internal group ($F = 111.50$, $df = 2, 117$, $p < .001$), while significantly more Ss with high Dependent theme scores were in the I-E External group ($F = 79.47$, $df = 2, 117$, $p < .001$). Because of insufficient data, tests of significance for Self-blaming and Other-blaming themes were not attempted.

TABLE 2

Distribution of MAPS Counterdependency, Self-Blaming, Dependent, Other-Blaming and Neutral Themes In I-E External, Middle and Internal Groups

		Distribution of MAPS Themes										Group Total	
		Counterdependent		Self-blaming		Dependent		Other-blaming		Neutral			
Group		N	% CD	N	% SB	N	%D	N	% OB	N	%N	N	%
	N	53	16.3	3	10.0	154	41.0	70	67.3	40	32.0	320	
I-E External	%E	16.6		0.9		48.1		21.9		12.2			99.7
	N	102	31.4	5	16.7	138	36.7	25	24.0	50	40.0	320	
I-E Middle	%M	31.9		1.6		43.1		7.8		15.6			100.0
	N	170	52.3	22	73.3	84	22.3	9	8.7	35	28.0	320	
I-E Internal	%I	53.1		6.9		26.3		2.8		10.9			100.0
Total N		325		30		376		104		125		960	
Total N%		33.9		3.1		39.2		10.8		13.0			100.0
Total Theme %			100.0		100.0		100.0		100.0		100.0		

Individuals who produced Self-blaming or Other-blaming themes, while not forming groups, were examined more closely to ascertain whether their themes were related to other variables in the study. Self-blaming themes were produced by a total of 23 Ss; of these, five Ss produced two or more Self-blaming themes, and all of these five individuals were members of the I-E Internal group. Other-blaming themes were produced by a total of 66 Ss; 31 of these Ss produced two or more Other-blaming themes, and of these, 26 individuals were members of the External group. Self-blaming and Other-blaming themes and their relation to the R-S and IBI variables will be referred to in subsequent sections.

Discussion. The hypothesis that Counterdependent themes would be expressed significantly more often by Internals, while External individuals' perceived control would be expressed significantly more often in Dependent themes was verified. Although the trend was not significant, it is worth noting that the number of Self-blaming and Other-blaming themes was highest in the Internal and External groups respectively, as hypothesized. This pattern of distribution of the four MAPS themes throughout the I-E groups is a further expression of the high MAPS and I-E correlation already noted.

The question of independence of the two tests of I-E orientation needs to be mentioned here. Even though the MAPS test and the I-E scale are both measures of I-E control, they are experimentally independent measures. Therefore the results of the comparison of the MAPS themes with the I-E subject categories (External, Middle and Internal) are not artifacts (see Table 2). However, it must be recognized that conceptual independence is not complete as far as the MAPS themes are concerned in that these themes would lead to scoring of MAPS protocols as External or Internal.

Internality and externality in this study could be expressed in three different ways: through endorsement of multiple choice items on Rotter's I-E scale; through thought samples of perceived internal and external control; and through themes which further define the thought samples of perceived internal and external control. All three of these methods of expressing perceived control were significantly correlated with each other (see Table 3). The I-E raw scores correlated .65 with the

MAPS raw scores; correlated positively with MAPS Dependent themes (.46) and Other-blaming themes (.55); and negatively with MAPS Counterdependent themes (-.54) and Self-blaming themes (-.32). All correlations were significant ($p < .001$).

The question arises regarding why more Self-blaming and Other-blaming themes were not produced in the present sample. Whether this was due to the fact that neither Self-blaming nor Other-blaming themes would occur more frequently in any population, or due to the nature of the Ss' thought samples in this particular population remains a speculative question. One possibility may have been reluctance on the part of some Ss to verbally express these particular types of themes, i.e., attributing blame or responsibility in an interpersonal situation; a tendency to want to produce socially desirable themes may have been a factor. Another possibility could be that Ss who were heavily medicated, as are many hospitalized psychiatric patients, were either less spontaneous than, for example, normal Ss in expressing a wide range of themes; or were feeling better about themselves and others because of an artificially raised mood level. Another explanation might be the use of inadequate or inaccurate categories for the classification of MAPS stories. Further research on the theoretical possibility of diversity within I-E groups and the direction this diversity might take is much needed.

The Repression-Sensitization Scale

The main reason for the inclusion of the R-S variable in the present study was the hope that it would assist in further clarification of the diversity within both Internal and External groups, particularly since it had already been linked with the I-E control construct by several researchers(Tolor & Reznikoff, 1967; Altrocchi et al, 1968; Lipp, Kolstoe & James, 1968; and Carroll, 1968).

A secondary purpose was further exploration of the R-S dimension itself. Relating repression-sensitization to indices of adjustment, Feder (1967) concluded that the R-S scale was measuring a rather complex and insufficiently defined dimension. Byrne (1964) suggested further research was needed on the relationship of the R-S variable to adjustment and personality variables; and in particular there should be further study of its role in interpersonal situations and behavior.

Like the I-E variable, the R-S dimension has been the subject of controversy among theorists and researchers regarding whether a linear relationship exists between sensitizing defenses and maladjustment (Joy, 1963b; Byrne, Golightly & Sheffield, 1965; Lipp et al, 1968; Mayo et al, 1971; Foulds & Warehime, 1971; and Clark & Neuringer, 1971); or whether the relationship is a non-linear one (Byrne, 1961, 1964; Kaplan, 1967; Bootzin & Stephens, 1967; Grebstein, 1967; Schill & Black, 1969; Baker & King, 1970; and Kahn & Schill, 1971). In support of Byrne's non-linear theoretical position, it was expected that Repressors and Sensitizers would be found in both the Internal and External groups in the present study.

The R-S scale mean for the whole sample was 58.50, with a median of 58.40, a range of 5.00 - 99.00, and a standard deviation of 24.50. Sensitizers were identified as those with high R-S scores, while low R-S scores identified the Repressor group (Byrne, 1961). The males as a group had a mean of 58.01 and a standard deviation of 25.53, while the female mean was 59.72, with a standard deviation of 22.65.

The means were higher and the standard deviations larger than Byrne's (1963) normative data (males: mean = 42.25, standard deviation = 20.10; females: mean = 42.68, standard deviation = 18.66), indicating that the present patient sample was more sensitizing than Byrne's normal group.

Comparing the present sample with psychiatric populations, the means were higher and the standard deviations larger than Ullmann's (1962) two samples of male psychiatric patients (mean = 25.73, standard deviation = 11.22; mean = 25.39, standard deviation = 11.44); while the present sample means were lower and the standard deviations larger than Gynther's (1963) alcoholic sample (males: mean = 75.58, standard deviation = 16.77; females: mean = 77.82, standard deviation = 17.69); indicating that the present patient sample was more sensitizing than Ullmann's psychiatric patients and more repressing than Gynther's alcoholic Ss. Female group means tended to be slightly more sensitizing than male group means in all samples quoted.

The intercorrelations of the R-S scale with the I-E scale and MAPS test are indicated in Table 3. The overall correlation between the R-S scale and the I-E scale was .26, slightly lower than the overall correlation of .29 between the R-S scale and the MAPS test; both correlations were significant ($p < .01$).

TABLE 3

Intercorrelation Matrix Between the I-E Scale, R-S Scale,
MAPS Test and MAPS Themes

Name of Scale	1	2	3	4	5	6	7	8
1. R-S Raw Scores	-	.26**	.29**	-.20*	-.14	.24*	.10	.03
2. I-E Raw Scores		-	.65***	-.54***	-.32***	.46***	.55***	.06
3. MAPS Raw Scores			-	-.87***	-.28**	.82***	.61***	.08
4. MAPS Counterdependent Themes				-	-.04	-.70***	-.55***	-.32***
5. MAPS Self-blaming Themes					-	-.22*	-.19*	-.03
6. MAPS Dependent Themes						-	.27**	-.19*
7. MAPS Other-blaming Themes							-	-.15
8. MAPS Neutral Themes								-

* $p < .05$
** $p < .01$
*** $p < .001$

A chi square test indicated that significantly more Sensitizers than Repressors were found in the External group ($\chi^2 = 7.40$, df = 2, $p < .05$), in keeping with findings from other studies (Tolor & Reznikoff, 1967; Efran, 1963; Carroll, 1968; and Kahn & Schill, 1971). No significant differences on a chi square test were found between the expected and observed frequency of Sensitizer or Repressor scores in the Middle or Internal groups.

The entire population of 120 Ss was divided into six I-E groups designated as External Sensitizers, External Repressors, Middle Sensitizers, Middle Repressors, Internal Sensitizers and Internal Repressors, with 20 Ss in each of the six I-E groups. The six groups were formed by dividing each of the three major groups (Externals, Middles and Internals) at the median R-S score. The means for the three Sensitizer groups were: External = 85.15; Middle = 72.65; and Internal = 76.65. The Repressor group means were: External = 51.30; Middle = 38.30; and Internal = 28.30.

The distribution of MAPS themes for the six groups is shown in Table 4. The largest number of MAPS Counterdependent themes were produced by the Internal Sensitizer group, representing 27.1% of the total MAPS Counterdependent themes and 55.0% of the total Internal Sensitizer group MAPS themes. Comparison of the Counterdependent theme means for the Internal groups showed a trend, while not significant, for the Internal Sensitizer group to have a higher mean than the Internal Repressor group mean ($t = .50$, df = 38, $p > .10$; $F = 1.40$, df = 19, 19, $p > .10$).

The largest number of MAPS Dependent themes was produced by the External Sensitizer group, representing 21.8% of the total MAPS Dependent themes and 51.3% of the total External Sensitizer group MAPS themes. Of the two External groups, there was a trend, although not significant, for the External Sensitizer group MAPS dependent theme mean to be higher than that of the External Repressor group ($t = 1.30$, df = 38, $p > .10$; $F = 1.38$, df = 19, 19, $p > .10$).

An equal number of MAPS Self-blaming themes were produced by the Internal Sensitizer and Internal Repressor groups, each group representing 36.7% of the total MAPS Self-blaming themes, and 6.9% of the total MAPS themes for each of the two Internal groups ($t = .29$, df = 38, $p > .10$; $F = 1.71$, df = 19, 19, $p > .10$).

TABLE 4

Distribution of MAPS Counterdependent, Self-blaming, Dependent, Other-blaming and Neutral Themes in I-E External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups

		Distribution of MAPS Themes										Group Total	
		Counter-dependent		Self-blaming		Dependent		Other-blaming		Neutral			
Group		N	%CD	N	%SB	N	%D	N	%OB	N	%N	N	%
External Sensitizer	N	22	6.8	1	3.3	82	21.8	33	31.7	22	17.6	160	
	%ES	13.8		.6		51.3		20.6		13.8			100.1
External Repressor	N	31	9.5	2	6.7	72	19.2	37	35.6	18	14.4	160	
	%ER	19.4		1.3		45.0		23.1		11.3			100.1
Middle Sensitizer	N	49	15.1	3	10.0	72	19.2	12	11.5	24	19.2	160	
	%MS	30.6		1.9		45.0		7.5		15.0			100.0
Middle Repressor	N	53	16.3	2	6.7	66	17.6	13	12.5	26	20.8	160	
	%MR	33.1		1.3		41.3		8.1		16.3			100.1
Internal Sensitizer	N	88	27.1	11	36.7	41	10.9	4	3.9	16	12.8	160	
	%IS	55.0		6.9		25.6		2.5		10.0			100.0
Internal Repressor	N	82	25.2	11	36.7	43	11.4	5	4.8	19	15.2	160	
	%IR	51.3		6.9		26.9		3.1		11.9			
Total N		325		30		376		104		125		960	100.1
Total N%													
Total Theme %			100.0		100.1		100.1		100.0		100.0		

Comparison of the two External groups showed that the largest number of MAPS Other-blaming themes was produced by the External Repressor group, representing 35.6% of the total MAPS Other-blaming themes and 23.1% of the total External Repressor group MAPS themes ($t = .25$, $df = 38$, $p > .10$; $F = 1.70$, $df = 19, 19$, $p > .10$).

Discussion. As had been hypothesized, Repressors and Sensitizers were found in both Internal and External groups, making it possible to explore the diversity within the I-E groups on the basis of the repression-sensitization continuum. The writer is not aware of any previous studies where diversity in the R-S continuum was explored in a hospitalized psychiatric population, focusing on both repression and sensitization.

The fact that Repressors and Sensitizers can be clearly differentiated in a psychiatric population suggests the possibility of a curvilinear relationship between repression-sensitization and adjustment and is in keeping with other research findings (Shannon, 1962; Ullmann, 1962; Byrne, 1961, 1964; Kaplan, 1967; Bootzin & Stephens, 1967, Grebstein, 1967; Schill & Black, 1969; Baker & King, 1969; and Kahn & Schill, 1971).

The significant correlation between the R-S and the I-E scale (.26) and the fact that significantly more Sensitizers than Repressors were found in the External group supports the research findings that Externals are apt to be more sensitizing than repressing (Tolor & Reznikoff, 1967; Efran, 1963; Carroll, 1968; and Kahn & Schill, 1971). However, the distribution of Sensitizers and Repressors throughout the entire patient sample still made it possible to form three Sensitizer groups with means above the total sample mean (58.40) and three Repressor groups with means below the sample mean.

Major hypotheses had been posited concerning the R-S groups, i.e., that Repressors would be found more frequently in Counterdependent Internal and Other-blaming External groups and that Sensitizers would be found more frequently in Dependent External and Self-blaming Internal groups. There was some, albeit tenuous, support for these hypotheses.

Although the trends were not significant, both External groups more frequently produced the expected MAPS themes. MAPS Dependent theme scores were numerically highest in the External Sensitizer group, while the External Repressor group produced the highest number of MAPS Other-blaming theme scores.

Neither of the two Internal groups produced the expected MAPS themes. MAPS Counterdependent theme scores were numerically highest in the Internal Sensitizer group, contrary to expectation. Although the trend was not significant, the data suggests that this particular group of Internal Sensitizers might have stronger tendencies toward counterdependency than the expected tendency toward self-blame.

The hypothesis that the MAPS Self-blaming theme scores would be highest in the Internal Sensitizer group found no support at all. An equal number of Self-blaming themes were produced by the Internal Sensitizer and Internal Repressor groups. However, closer examination of R-S scores indicated that the mean R-S score (53.35) of the 23 Ss producing Self-blaming themes (in the entire sample) was toward the Repressor end of the continuum, suggesting the possibility that Internal Repressors might have stronger tendencies toward self-blame rather than the expected Counterdependent MAPS theme orientation.

Summarizing the information regarding MAPS themes in the Sensitizer and Repressor groups, the External Sensitizer group produced more Dependent themes, as expected; more Other-blaming themes were produced by the External Repressor group, as expected; the Internal Sensitizer group produced more Counterdependent themes, contrary to prediction; and more Self-blaming themes were produced by the Internal Repressor group, contrary to expectations. Unfortunately, none of these findings were significant. Although such weak trends probably don't deserve extended treatment, a bit of speculation is hard to resist.

According to Byrne's (1964) non-linear theory, the groups near the middle should be most "normal," while the more sensitizing and repressing groups should be more maladjusted. The Internal Sensitizer group would then be expected to be the most "normal" of the four groups, since Internals have frequently been described, in both theory and research, as more well-adjusted (Rotter, 1966; Lefcourt, 1966; de Charms, 1968; Tiffany, Shontz & Wall, 1969; Hersch & Scheibe, 1967; Tolor

& Reznikoff, 1967; and Wall, 1970). The Internal Sensitizer group produced most counterdependent themes; these could be considered as being the most "normal" of the MAPS themes, i.e., centering on self-assertion and self-determination.

Following this same line of reasoning, the Middle Repressor group would be expected to be more Internal than the Middle Sensitizer group. While not significantly different, the Middle Repressor group was slightly more Internal (I-E mean = 9.45; MAPS mean = 25.50) than the Middle Sensitizer group (I-E mean = 9.70; MAPS mean = 26.10), as expected. The same group would also be expected to produce more MAPS Counterdependent themes than the Middle Sensitizer group, and this was found to be the case (see Table 4), although the difference was not significant.

The Interpersonal Behavior Inventory

It was anticipated that the IBI-4 (Lorr & McNair, 1965) would provide further clarification of how the diversity within the thought samples of Internals and Externals would also be expressed in their observed interpersonal behaviors in the ward setting. The IBI-4 was chosen because of its wide range of observed interpersonal behaviors; its previous use with psychiatric populations (Lorr & McNair, 1965; Lorr & Suziedelis, 1969); and its evaluation as a useful interpersonal rating scale (Wiggins, 1968) for psychiatric patients. Although the IBI had not been used in previous I-E research, it was anticipated that Internal and External groups would be differentiated in terms of their observed interpersonal behaviors.

The range, means, standard deviations, skewness and probability of skewness of the 15 IBI variables are indicated in Table 5 which also indicates Lorr's (1968) norms for a normal and a patient population. Inspection of the means of the present patient sample and Lorr's samples showed that Lorr's patient group had the highest mean scores of the three groups, on the Competition, Aggression, Mistrust, Inhibition, Submissiveness, Succorance, Abasement and Deference variables. The means for Dominance, Agreeableness, Nurturance, Affection, Sociability and Exhibition were highest in Lorr's normal sample. The present patient sample had the highest mean, of the three groups, on one variable: Detachment.

The Dominance, Competition, Aggression, Submissiveness, Abasement,

TABLE 5

Lorr's (1968) Means and Standard Deviations for IBI Variables in His Normal and Patient Groups Compared With Ranges, Means, Medians, Standard Deviations, Skewness and Probability of Skewness of IBI Variables in the Present Study

	Lorr's Norms				Descriptive Statistic						
	Normals		Patients		Present Study						
IBI Variables	M	SD	M	SD	Range	M	MDN	SD	SD(M)	Skew	P
Dominance	19.12	4.76	18.20	5.38	9.00 - 36.00	17.47	16.64	5.42	0.50	3.63	0.00
Competition	19.45	5.94	21.22	5.94	10.00 - 34.00	18.21	17.00	5.39	0.49	4.19	0.00
Aggression	18.02	5.80	22.29	6.97	10.00 - 35.00	19.94	19.40	6.79	0.62	2.24	0.02
Mistrust	16.11	4.87	23.80	6.20	10.00 - 38.00	22.89	22.59	6.48	0.59	0.94	0.65
Detachment	21.68	5.49	26.72	6.95	13.00 - 43.00	26.95	26.30	6.96	0.64	0.86	0.61
Inhibition	13.10	3.97	18.85	5.05	7.00 - 27.00	17.06	17.60	4.63	0.42	0.38	0.71
Submissiveness	19.22	4.87	24.29	6.73	12.00 - 40.00	22.38	21.50	6.21	0.57	2.17	0.03
Succorance	19.37	4.95	24.41	6.38	12.00 - 43.00	24.00	22.47	6.70	0.61	2.72	0.07
Abasement	15.78	4.21	22.61	5.69	9.00 - 33.00	17.22	17.00	5.25	0.48	2.87	0.00
Deference	23.23	4.19	24.37	5.14	11.00 - 34.00	21.63	21.00	4.59	0.42	2.26	0.02
Agreeableness	23.74	3.93	20.19	4.31	8.00 - 31.00	19.23	18.42	4.55	0.42	0.49	0.63
Nurturance	28.37	6.07	24.64	6.26	10.00 - 35.00	21.16	21.00	5.54	0.51	0.98	0.67
Affection	19.64	4.29	14.94	4.36	7.00 - 23.00	13.65	13.56	3.72	0.34	1.83	0.06
Sociability	26.71	6.40	21.67	6.54	10.00 - 36.00	19.78	18.55	6.85	0.63	2.09	0.03
Exhibition	14.94	4.77	14.63	5.30	8.00 - 31.00	14.89	13.33	5.57	0.51	3.10	0.00

TABLE 6

Intercorrelation Matrix Between the 15 Scales of the Interpersonal Behavior Inventory and the I-E, MAPS and R-S Raw Scores

Name of Scale 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. IBI Dominance	.77***	.61***	.36***	-.32***	-.43***	-.43***	.16	-.06	.10	.02	.14	.17	.63***	.66***	-.02	-.07	.09	-.14	.21*	.05	.16	-.07
2. IBI Competition	-	.55***	.41***	-.16	-.17	-.29**	.18	.10	.22*	.02	.13	.18	.55***	.63***	-.05	-.05	.06	-.11	.23*	.02	.12	-.04
3. IBI Aggression		-	.68***	.04	-.13	-.50***	.15	-.27**	.21*	-.35***	-.29**	-.21*	.19*	.37***	-.01	-.03	.12	-.06	-.07	.14	.03	-.10
4. IBI Mistrust			-	.35***	.20*	-.12	.22*	.04	-.15	-.30**	-.25**	-.28**	.04	.18	-.03	-.09	.01	-.01	-.03	.05	.03	-.03
5. IBI Detachment				-	.59***	.28**	-.20*	-.06	-.20*	-.19*	-.29**	-.43***	-.63***	-.48***	-.03	-.20*	-.12	.13	-.14	-.03	-.16	.03
6. IBI Inhibition					-	.52***	.06	.32***	.17	.03	-.00	-.11	-.42***	-.49***	.02	-.02	-.08	.15	-.14	-.02	-.07	-.10
7. IBI Submissiveness						-	.40***	.47***	.27**	.07	.08	.14	-.14	-.18	-.05	-.08	-.19*	.24*	-.15	-.14	-.14	-.04
8. IBI Succorance							-	.31**	.16	-.21*	-.22*	.19*	.28**	.42***	-.10	.00	-.04	.10	-.12	.05	-.04	-.15
9. IBI Abasement								-	.53***	.27**	.41***	.36***	.22*	.13	-.14	.06	-.15	.13	.03	-.10	-.14	.01
10. IBI Deference									-	.61***	.65***	.63***	.39***	.12	-.07	.08	-.03	-.02	.14	-.01	-.06	.03
11. IBI Agreeableness										-	.77***	.60***	.30**	-.14	-.04	.19*	.03	-.13	.16	-.04	.05	.17
12. IBI Nurturance											-	.55***	.42***	.00	-.06	.15	-.07	-.02	.30**	-.12	.01	.05
13. IBI Affection												-	.54***	.22*	.09	.18	.13	-.14	.06	.03	.20*	.02
14. IBI Sociability													-	.67***	.03	.09	.17	-.19*	.17	.08	.23*	-.06
15. IBI Exhibition														-	-.08	-.00	.06	-.06	.11	-.04	.04	.02
16. I-E Raw Scores															-	.26**	.65***	-.54***	-.32***	.46***	.55***	.06
17. R-S Raw Scores																-	.29**	-.20*	-.14	.24*	.10	.03
18. MAPS Raw Scores																	-	-.87***	-.28**	.82***	.61***	.08
19. MAPS Counterdependent Themes																		-	-.04	-.70***	-.55***	-.32***
20. MAPS Self-blaming Themes																			-	-.22*	-.19*	-.03
21. MAPS Dependent Themes																				-	.27**	-.19*
22. MAPS Other-blaming Themes																					-	-.15
23. MAPS Neutral Themes																						-

* p .05
** p .01
*** p .001

Deference, Sociability and Exhibition scales in the present study were significantly skewed. Unfortunately, no comparisons could be made to Lorr's data because no skew values were reported by Lorr.

Intercorrelations of the IBI scales with the I-E raw scores, R-S raw scores, MAPS raw scores and MAPS themes are indicated in Table 6. High intercorrelations between the 15 IBI variables were frequent. No high correlation between IBI variables and I-E raw scores were noted, contrary to expectations.

While there were no high correlations between the IBI and I-E raw scores, several IBI variables correlated with either MAPS raw scores or MAPS themes. Submissiveness correlated with MAPS Internal raw scores ($r = .19$) and MAPS Counterdependent themes ($r = .24$); these correlations had not been predicted. All of the correlations of Dominance ($r = .21$), Competition ($r = .23$) and Nurturance ($r = .30$) with MAPS Self-blaming themes were contrary to expectations, as were the correlations of Affection ($r = .20$) and Sociability ($r = .23$) with MAPS Other-blaming themes.

Only two IBI variables were correlated with R-S raw scores. The correlation between Agreeableness and Sensitizer scores ($r = .19$) had been predicted, but the correlation between Detachment and Repressor scores ($r = .20$) was contrary to prediction.

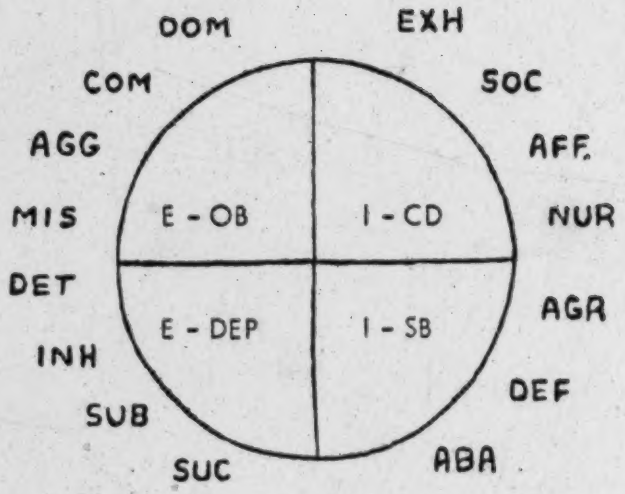
Factor analysis was chosen as the initial method of interpreting the IBI data before attempting to compare the IBI variables with other major variables in the present study. Since Lorr had used the same method to interpret his data, the factor analysis in the present study provided an excellent opportunity to compare the two studies and evaluate whether generalizations could be made from Lorr's work.

The factor analyses were based on the intercorrelation matrix of the raw scores of the 15 variables which made up the IBI. All 120 Ss were used. Table 7 indicates the resulting factor structure with Varimax ($p = .5$, Hakistan, 1970, 1971) and with a moderately oblique rotational scheme ($p = .5$, Harris-Kaiser oblique rotation, Harris-Kaiser, 1964), using the centroid method of condensation. The principle variables which contribute to the variance of a particular factor are indicated by loading order in order to display factor saturation, according to the method proposed by Rummel (1970).

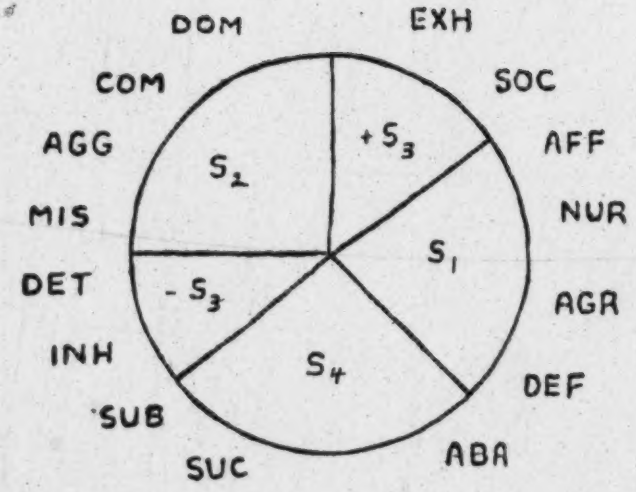
TABLE 7

Factor Loadings of the Fifteen IBI Variables on the Four Factors Determined by Varimax (p = .5, W = 1) and Harris-Kaiser Oblique Solutions (p = .5, W = 1)

	Factors							
	S1		S2		S3		S4	
IBI Variable	V	H-K	V	H-K	V	H-K	V	H-K
Nurturance	(.91)	-.05	-.03	(.92)	.08	.09	-.11	-.17
Agreeableness	(.88)	-.17	-.14	(.90)	.01	.04	-.16	-.09
Deference	(.82)	.05	.06	(.79)	.01	.47	.30	-.14
Affection	(.72)	-.03	-.03	(.71)	.36	.34	.23	-.45
Aggression	-.31	(.85)	(.84)	-.33	.01	-.22	-.15	-.08
Competition	.20	(.84)	(.84)	.17	.21	.06	.05	-.35
Dominance	.12	(.81)	(.80)	.12	.42	-.12	-.09	-.53
Mistrust	-.23	(.76)	(.77)	-.29	-.38	.10	.12	.28
Detachment	-.23	.00	.04	-.25	(-.87)	.03	-.03	(.88)
Inhibition	.12	-.11	-.07	.07	(-.83)	.45	.33	(.78)
Exhibition	-.02	.58	.55	-.04	(.66)	.20	.30	(-.74)
Sociability	.44	.45	.43	.43	(.64)	.19	.18	(-.76)
Succorance	-.17	.22	.20	-.23	.23	(.76)	(.84)	-.30
Submissiveness	.14	-.39	-.39	.08	-.33	(.79)	(.74)	.30
Abasement	.50	.01	.01	.44	-.14	(.74)	(.63)	.02
Eigenvalue	3.55	4.42	3.35	3.81	2.97	2.21	2.12	1.56



(a)



(b)

Figure 3. Comparison of (a) expected IBI quadrants with (b) factor groupings of IBI variables from Varimax analysis.

The Varimax rotation and the oblique rotation both indicated four factors. Since these evidenced essentially the same loading patterns, only the Varimax rotations will be discussed in detail. Figure 3 compares the expected division of the IBI circle with the groupings according to the four factors.

The first factor was defined primarily by Nurturance, Agreeableness, Deference and Affection, overlapping the expected lower and upper right quadrants.

The second factor consisted of Aggression, Competition, Dominance and Mistrust, the four variables in the upper left quadrant, confirming the expectancy that these variables would group together.

The third factor was found to be bi-polar, consisting of Detachment and Inhibition from the lower left quadrant and Exhibition and Sociability from the upper right quadrant.

The fourth factor, defined by Succorance, Submissiveness, and Abasement, drew from both the left and right lower quadrants in Figure 3(a).

To summarize, the second factor followed the expected grouping, and with the exception of the third factor which was bi-polar, the other factors roughly corresponded to the expected groupings, with some overlap into adjoining quadrants. Even though all the factors did not correspond exactly with the hypothesized quadrants, the groupings were considered to be a relatively good fit.

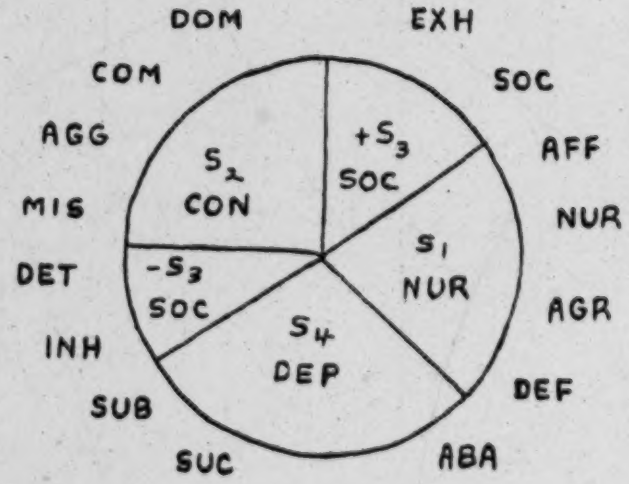
Comparison of Lorr's study with the present study. Lorr and Suziedelis (1969) factor-analyzed the IBI-4 scales, using a normal sample (290 Ss), a large patient sample (525 Ss), and a small patient sample (60 Ss), in an attempt to determine the number and nature of the IBI factors. Their findings were compared with those of the present study.

Table 8 presents a comparison between the loading order of the 15 IBI variables in Lorr's normal sample and the present patient sample, and Figure 4 compares the factor groupings in the two samples. Both rotations yielded four factors.

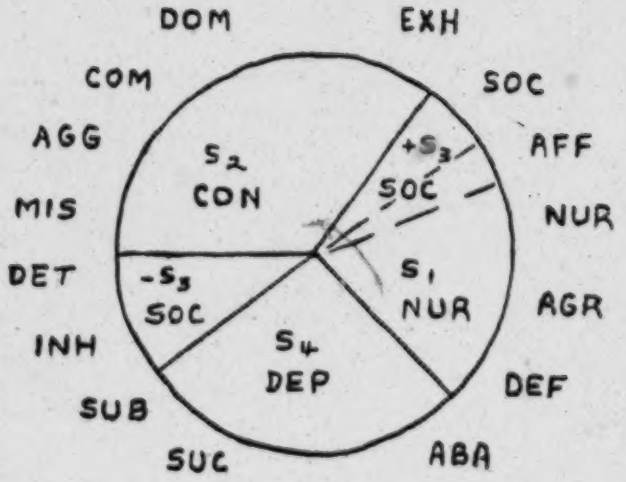
TABLE 8

Comparison of Loading Order of Fifteen IBI Variables in Lorr's (1969) Normal Sample (LNS) and Present Patient Sample (PPS) With Factors Determined by Varimax Rotation

	Factors							
	S1		S2		S3		S4	
	NUR		CON		SOC		DEP	
IBI Variable	LNS	PPS	LNS	PPS	LNS	PPS	LNS	PPS
Nurturance	(.78)	(.91)	-.19	-.03	.25	.08	.03	-.11
Agreeableness	(.73)	(.88)	-.18	-.14	.32	.01	-.05	-.16
Affection	(.72)	(.72)	-.17	-.03	(.50)	.36	.04	.23
Deference	(.38)	(.82)	.17	.06	.10	.01	.37	.30
Competition	-.16	.20	(.88)	(.84)	-.04	.21	-.01	.05
Dominance	.01	.12	(.84)	(.80)	.13	.42	-.17	-.09
Exhibition	-.18	-.02	(.76)	.55	.23	(.66)	.11	.30
Aggression	-.32	-.31	(.66)	(.84)	-.41	.01	.03	-.15
Mistrust	-.20	-.23	(.54)	(.77)	-.42	-.38	.35	.12
Detachment	-.21	-.23	-.13	.04	(-.85)	(-.87)	.07	-.03
Inhibition	-.03	.12	-.19	-.07	(-.57)	(-.83)	(.57)	.33
Sociability	.29	.44	.37	.43	(.73)	(.64)	.09	.18
Succorance	-.06	-.17	.22	.20	-.01	.23	(.76)	(.84)
Submissiveness	.14	.14	-.33	-.39	-.01	-.33	(.69)	(.74)
Abasement	.32	.50	.00	.01	-.21	-.14	(.66)	(.63)



(a)



(b)

Figure 4. Comparison of factor groupings in (a) present patient sample and (b) Lorr's normal sample (Lorr, 1969).

The first factor was defined primarily by Nurturance, Agreeableness, Affection and Deference in both samples. Following Lorr, this factor has been named "Nurturance."

"Control" was the name given to Lorr's second factor, defined by Competition, Dominance, Exhibition, Aggression and Mistrust. The second factor in the present sample was also defined by Competition, Dominance, Aggression and Mistrust; however, Exhibition in the present patient sample did not contribute to the Control factor; it had a higher loading on the third factor.

Lorr's third factor, "Sociability," was defined primarily by Sociability and Affection versus Detachment and Inhibition, while the same bi-polar factor in the present patient sample was defined by Sociability and Exhibition versus Detachment and Inhibition.

"Dependency," the fourth factor, was defined by Succorance, Submissiveness and Abasement in both Lorr's normal sample and the present patient sample.

Comparison of the two factor analyses indicated a close correspondence between the factors in Lorr's normal sample and the present patient sample, both in terms of number and definition of factors.

Lorr had found five factors in his large and small patient samples. For comparison purposes, a five-factor Varimax rotation analysis of the present data was undertaken, even though the Eigenvalue was less than 1.00 when the fifth factor was extracted. Table 9 compares the results of the three samples.

Agreeableness, Nurturance, Affection and Deference contributed substantially to the factor called "Nurturance" in Lorr's large patient sample and his small patient sample. The same four variables contributed to a factor in the present patient sample.

Competition, Dominance, Aggression and Exhibition defined the second factor in Lorr's patient samples, while the same variables, with the addition of Mistrust, defined the "Control" factor in the present patient sample.

The third factor, "Sociability," in Lorr's patient samples was defined by Detachment and Inhibition versus Sociability and Affection, while the same bi-polar factor in the present patient sample was defined by Detachment and Inhibition versus Sociability and Exhibition.

TABLE 9

Comparison of Loading Order of Fifteen IBI Variables in Lorr's (1969) Large Patient Sample (LLPS), Lorr's Small Patient Sample (LSPS) and Present Patient Sample (PPS), With Factor Loadings Determined in All Cases by Varimax Rotation

	Factors														
	S1			S2			S3			S4			S5		
	NUR	NUR		CON	CON		SOC	SOC		DEP	DEP		HOS	HOS	
IBI Variable	LLPS	LSPS	PPS	LLPS	LSPS	PPS	LLPS	LSPS	PPS	LLPS	LSPS	PPS	LLPS	LSPS	PPS
Agreeableness	(.87)	(.78)	-.13	-.05	.10	(.89)	.09	.28	-.18	-.02	.12	-.00	-.09	-.16	.00
Nurturance	(.79)	(.86)	-.02	.01	.18	(.82)	.21	.22	-.30	.11	.04	-.13	.07	-.12	-.29
Affection	(.67)	(.64)	-.04	.01	.10	(.80)	(.51)	(.57)	.32	.13	.16	-.28	-.06	-.07	.01
Deference	(.56)	(.69)	.06	.10	.26	(.81)	-.02	.10	.18	(.54)	(.50)	.01	-.20	-.14	-.30
Competition	-.09	.13	(.83)	(.86)	(.83)	.16	.13	.09	.00	-.01	-.05	-.24	-.08	.18	-.15
Dominance	-.01	.17	(.79)	(.80)	(.83)	.12	.36	.20	-.03	-.15	-.10	-.45	-.10	.14	.04
Aggression	-.50	-.44	(.84)	(.70)	.44	-.24	-.07	-.09	.06	-.14	-.11	.01	.29	(.59)	.33
Exhibition	-.16	.02	(.53)	(.68)	(.66)	-.06	.50	.44	.26	.21	.03	(-.68)	.03	.01	-.24
Detachment	-.26	-.08	.05	-.14	-.13	-.25	(-.82)	(-.78)	-.12	.04	.29	(.85)	-.04	.26	-.04
Inhibition	-.16	.00	-.06	-.26	-.41	.11	(-.67)	(-.52)	.18	.41	.49	(.85)	.21	.25	-.26
Sociability	.44	.39	.41	.39	.45	.44	(.68)	(.74)	.18	.07	.05	(-.64)	.10	.01	-.14
Succorance	-.17	-	.17	-.02	-	.07	.15	-	(.91)	(.70)	-	-.14	.07	-	-.17
Abasement	.23	.40	.01	-.22	-.20	.34	-.23	-.08	.21	(.70)	(.78)	.07	.24	-.09	(-.83)
Submissiveness	-.30	.30	-.39	-.39	-.38	.11	-.23	-.02	.15	(.66)	(.71)	.36	.05	-.15	(-.50)
Mistrust	-.43	-.23	(.77)	.47	.20	-.24	-.30	-.19	.12	.09	.05	.37	(.43)	(.73)	-.03

"Dependency," the fourth factor, was defined in Lorr's patient samples by Succorance, Abasement, Submissiveness and Deference. In the present patient sample these three variables contributed to two separate factors: one was defined primarily by Succorance only, and the other by Abasement and Submissiveness.

Lorr named his fifth factor "Hostility" and found that it was defined primarily by Mistrust in his large patient sample and by Mistrust and Aggression in his small patient sample. No separate or distinct Hostility factor could be found in the present patient sample; both Mistrust and Aggression had high loadings on Control.

Comparison of the factor analyses of the three patient groups showed that all three analyses produced the same number of factors, but the fifth one was not defined by the same variables in all groups; however, the other factors correspond closely, in terms of being defined by certain IBI variables.

Comparison in terms of factor score correlations between Lorr's normal sample and the present patient sample, and between Lorr's large patient sample and the present patient sample are shown in Table 10. Consistent with the more formal analysis presented above, there was a very high level of correspondence between Lorr's normal sample and the present patient sample on the Nurturance, Control, Sociability and Dependency factors. The same was true for Lorr's large patient sample and the present patient sample, except that no corresponding factor could be found for Lorr's Hostility factor. The high level of correspondence would be expected from the previous findings where large and similar factor loadings were evident.

Factor analysis of IBI variables and other variables. An exploratory factor analysis using a Varimax rotation of 24 main variables (see Table 11) resulted in eight factors, defined by the 15 IBI variables, together with the I-E raw scores, R-S raw scores, MAPS themes, age and intelligence. This, the largest factor analysis attempted, allowed a 5:1 ratio of Ss to variables, which is considered to have some stability in the intercorrelation matrix (Rummel, 1970).

The first, second, fourth and fifth Varimax factors were defined by IBI variables. The first factor was defined primarily by Aggression, Competition,

TABLE 10

Relationship of Factor Axes as Cosine Angles (a) Between Lorr's Normal Samples (LNS) and the Present Patient Sample (PPS) and (b) Between Lorr's Large Patient Sample (LLPS) and the Present Patient Sample (PPS) on IBI Variables

(a) LNS and PPS

Factors, LNS	Factors, PPS S1 NUR	S2 CON	S3 SOC	S4 DEP
S1 - Nurturance	.98	.01	.15	-.14
S2 - Control	.03	.96	-.28	.03
S3 - Sociability	.16	-.29	-.93	.15
S4 - Dependency	.11	.01	.18	.98

(b) LLPS and PPS

Factors, LLPS	Factors, PPS S1 NUR	S2 CON	S3 SOC	S4 DEP
S1 - Nurturance	.97	-.16	.00	-.16
S2 - Control	.15	.96	-.13	-.11
S3 - Sociability	-.01	-.08	-.97	.13
S4 - Dependency	.19	.06	.09	.96
S5 - Hostility	-.02	.21	.17	.15

TABLE 11

Factor Loadings of the IBI Variables, I-E Raw Scores, R-S Raw Scores, MAPS Themes, Intelligence and Age on the Eight Factors Determined by Varimax Rotation (P = 1, W = 1)

	Factors							
Variable	S1	S2	S3	S4	S5	S6	S7	S8
IBI Aggression	(.85)	-.30	-.05	-.14	-.03	-.07	-.07	.14
IBI Competition	(.82)	.19	-.03	.06	-.21	.10	-.01	-.19
IBI Mistrust	(.78)	-.23	.02	.11	.35	-.03	.05	.04
IBI Dominance	(.78)	.13	-.06	-.08	-.44	.14	-.06	-.07
IBI Nurturance	-.04	(.90)	.09	-.15	-.07	.00	-.01	-.08
IBI Agreeableness	-.15	(.87)	-.03	-.18	.00	-.02	.12	-.02
IBI Deference	.06	(.82)	.04	.27	.02	.02	.01	-.04
IBI Affection	-.05	(.74)	-.17	.23	-.32	.04	-.03	.07
MAPS Counterdependent Themes	-.08	-.07	(.83)	.12	.09	-.06	-.37	.18
I-E Raw Scores	-.07	-.03	(-.79)	-.03	.03	-.07	.08	.18
MAPS Other-blaming Themes	.04	.03	(-.73)	-.04	-.12	.04	-.20	-.11
MAPS Dependent Themes	.08	-.04	(-.76)	-.01	.04	-.04	-.08	.15
IBI Succorance	.20	-.10	.02	(.84)	-.21	-.01	-.10	.10
IBI Submissiveness	-.39	.16	.11	(.71)	.35	.11	-.03	.02
IBI Abasement	.02	(.53)	.15	(.60)	.15	-.01	.06	-.01
IBI Inhibition	-.06	.12	.00	.30	(.85)	-.09	-.09	-.05
IBI Detachment	.05	-.25	.08	-.05	(.85)	.16	.06	.06
IBI Exhibition	(.53)	.00	.04	.33	(-.67)	.05	.06	-.04
IBI Sociability	.41	.46	-.14	.19	(-.62)	.04	-.08	-.08
Intelligence	.12	.24	-.12	.01	-.01	(.79)	.17	.15
R-S Raw Score	-.02	.23	-.24	-.05	-.08	(-.71)	.13	.29
MAPS Neutral Themes	-.06	.03	.04	-.05	-.03	.03	(.97)	-.01
MAPS Self-blaming Themes	.10	.22	.29	-.21	-.14	.16	-.01	(-.69)
Age	-.04	.11	.47	-.07	-.12	.42	-.05	(.58)

Mistrust, Dominance and Exhibition; the second factor by Nurturance, Agreeableness, Deference, Affection and Abasement; the fourth by Succorance, Submissiveness and Abasement; and the fifth, which was bi-polar, was defined primarily by Inhibition, Detachment, Exhibition and Sociability. None of the IBI variables grouped with the MAPS themes, I-E and R-S raw scores, age or intelligence variables to form factors.

The third factor was defined primarily by MAPS Counterdependent themes, I-E raw scores, MAPS Other-blaming themes and MAPS Dependent themes. The factor was bi-polar, as would be expected, with MAPS Counterdependent themes being inversely related to the other variables.

The sixth factor was bi-polar and was defined primarily by intelligence and R-S raw scores, indicating tendencies for Repressors to have higher intelligence ratings than Sensitizers.

The MAPS Neutral themes made up one factor, with no other variables making moderate or high contributions. The eighth factor was bi-polar and was defined primarily by MAPS Self-blaming themes and age, indicating a tendency for older Ss to give less Self-blaming themes.

Discussion. The factor analysis confirmed the expectation that IBI variables would group together to form factors which would correspond to the four theoretical quadrants. Although the factor groupings showed some overlap of IBI variables into adjoining quadrants, and one factor was bi-polar, there was an overall close correspondence between the factor groupings and the theoretical quadrants.

The theoretical quadrants had been formulated on the basis of findings from Lorr and McNair's (1965) and Lorr and Bishop's (1965) factor analyses of the IBI as well as the writer's clinical intuition. Factor groupings in the present study gave further validation to the two studies, and also to the more recent factor analysis of the IBI by Lorr and Suziedelis (1969). The high correlation between the factors in the present study and Lorr's normal sample and his large and small patient samples were further evidence that the number and definition of IBI factors would remain

fairly stable over different populations.

Four factors accounted for most of the variance among the IBI variables in the present study. Lorr and Bishop (1965) also found four factors in their three patient samples (using the IBI-3, an earlier form of the IBI-4). The main difference between the patient samples of Lorr and Suziedelis (1969) and the present patient sample was the presence of a fifth factor labelled "Hostility" in the former study. Its absence in the present study may be partly explained by the fact that all Ss were volunteers and were not coerced in anyway to participate in the study. Because of the voluntary nature of the study, patients who were inclined to be suspicious and have mistrust may have been excluded by personal choice.

The major factor analysis using 24 main variables was disappointing in that none of the IBI variables grouped with the I-E and R-S raw scores, MAPS themes, age or intelligence variables to form factors. The intercorrelation matrix (see Table 6) also indicated only minimal correlations between IBI variables and I-E raw scores, and between IBI variables and R-S scores; with the exception of Agreeableness and Detachment, which correlated significantly with Sensitizer and Repressor scores, respectively.

Of all the main variables, the MAPS themes correlated most highly with the IBI variables. Affection and Sociability correlated significantly with MAPS Other-blaming themes; these themes had been found most frequently in the External Repressor group (see Table 4).

Submissiveness correlated significantly with MAPS Internal raw scores, as well as MAPS Counterdependent themes; these themes were most frequent in the Internal Sensitizer group.

Competition and Nurturance had significant correlations with MAPS Self-blaming themes; the Internal Repressor group had produced more of these themes than had the other groups.

The similarity between the findings of Lorr's normal sample and the present patient sample made it possible to use Lorr's "Nurturance," "Control," "Sociability" and "Dependency" labels for the four factors in the present study. Although attempts to relate these four factors to other main variables were disappointing, it was decided that multiple discriminant analysis might provide

some finer discriminations such as a possible interaction between the R-S and I-E or MAPS groups. In addition, such an analysis would be sensitive to such a relationship between the factor groupings and the observed interpersonal behaviors of the External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups.

Because of the correlations between IBI variables and MAPS themes, and the frequency of certain MAPS themes in the four major groups, it was anticipated that the discriminant analyses might indicate the following tendencies toward high IBI scores: External Repressors: Affection and Sociability; Internal Sensitizers: Submissiveness; and Internal Repressors: Competition and Nurturance.

Multiple Discriminant Analyses of IBI Variables in I-E and MAPS Groups

Several multiple discriminant analyses (according to the method described by Kelly, Beggs and McNeil, 1969) were undertaken to assess the discriminability between the various I-E and MAPS groups on the basis of their IBI scores. Discriminatory analysis, according to Nunnally (1967), is a useful technique when groups of persons are defined a priori and the purpose of the analysis is to distinguish the groups from one another on the basis of their score profiles. An attempt was made to maximize the discrimination among groups by depicting graphically how the IBI variables combined to form certain dimensions which were orthogonal to one another, with each group occupying a certain region of the dimensional space.

Nunnally (1967) has cautioned that unless there are significant differences on some of the variables, preferably on a majority of them, it is difficult to interpret the significance of differences in overall profiles. This problem was encountered in the present study where very few (a total of five) of the IBI variables were able to significantly differentiate between the patient groups, and for this reason the results of the disciminant analysis did not provide either strong or clear cut findings.

However, trends were indicated which appeared to be relevant to the

hypotheses regarding the groups, and will be reported, with emphasis on those where the trends approached significance. The reader is reminded that the presentation and discussion to follow will be presented in a positive fashion and the trends, although weak, will be developed for speculative purposes. To avoid complexity in the discussion, this caution will not be repeated and the reader can bear this in mind.

A total of five multiple discriminant analyses, all based on raw IBI scores, assessed the discriminability among (1) the three I-E groups; (2) the four I-E groups; (3) the six I-E groups; (4) the four MAPS groups; and (5) the six MAPS groups.

Comparison of the three I-E groups indicated that none of the IBI variables significantly differentiated between the three groups, nor did the addition of Middle groups add any clarity to the differentiation between either I-E or MAPS groups; for this reason the results of the first, second, third and fifth discriminant analyses are reported in Appendix G (Tables 5 - 18, and Figures 1 - 7). This section will report in detail on only the fourth analysis, where the four MAPS groups were assessed and several IBI variables were able to significantly differentiate between the groups.

Multiple discriminant analysis of the four MAPS groups. The External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups as defined by their MAPS raw scores were examined in a multiple discriminant analysis to assess the ability of the IBI variables to differentiate between the four MAPS groups. Fifteen analyses of variance assessed the ability of each of the IBI variables to differentiate between the four MAPS groups (see Table 14, Appendix G). Detachment, Inhibition, Sociability, Agreeableness and Exhibition all showed significant mean differences for the four groups (Detachment: $F = 2.95$, $df = 3, 76$, $p < .05$; Inhibition: $F = 3.52$, $df = 3, 76$, $p < .05$; Sociability: $F = 2.97$, $df = 3, 76$, $p < .05$; Agreeableness: $F = 2.29$, $df = 3, 76$, $p < 10$; Exhibition: $F = 2.35$, $df = 3, 76$, $p < .10$).

Determination of discriminants revealed that the first discriminant

accounted for 46% of the total dispersion as reflected by the 15 IBI variables, while 22% of the variance was attributable to the second and 8% to the third discriminant. The approximate chi square test indicated that the first and second discriminant functions approached significance (Root 1: $\chi^2 = 24.65$, df = 17, p = .10; Root 2: $\chi^2 = 22.14$, df = 15, p = .10). The third discriminant was not significant (Root 3: $\chi^2 = 7.81$, df = 13, $p > .30$).

Examination of the relationship of the variables to the discriminant functions, as indicated in Table 12, suggested that Sociability (+.59) and Nurturance (-.53)

TABLE 12

Variable Loadings on Three Discriminant Functions Determined on IBI Variables in MAPS External Sensitizer, MAPS External Repressor MAPS Internal Sensitizer and MAPS Internal Repressor Groups

	Discriminant Function		
IBI Variable	1	2	3
Dominance	- 0.06	- 0.22	- 0.18
Competition	0.03	- 0.07	0.06
Aggression	0.27	- 0.14	0.33
Mistrust	- 0.06	0.09	- 0.20
Detachment	- 0.19	0.17	- 0.25
Inhibition	0.07	0.46	0.17
Submissiveness	0.23	- 0.45	0.12
Succorance	- 0.19	0.02	0.18
Abasement	- 0.20	0.06	- 0.23
Deference	- 0.08	- 0.16	0.00
Agreeableness	0.02	0.22	0.65
Nurturance	- 0.53	- 0.26	0.17
Affection	0.19	0.56	- 0.34
Sociability	0.59	0.15	- 0.18
Exhibition	- 0.27	0.00	0.14

defined the first discriminant, while the second discriminant was defined positively by Affection (+.56) and Inhibition (+.46) and negatively by Submissiveness (-.45). The third discriminant was defined at one pole by Affection (-.34). Agreeableness (+.65) and Aggression contributed to the positive pole.

The group centroids for the four MAPS groups (see Table 13) were plotted graphically for the three discriminant functions (see Figures 5 and 6).

TABLE 13

Discriminant Score Means of MAPS External Sensitizer, MAPS External Repressor, MAPS Internal Sensitizer, MAPS Internal Repressor Groups Evaluated Over Their IBI Scores

	Vector					
	+	-	+	-	+	-
Group	SOC	NUR	AFF INH	SUB	AGR AGG	AFF
MAPS External Sensitizer	- 3.21		3.77		9.95	
MAPS External Repressor	- 5.33		6.45		7.99	
MAPS Internal Sensitizer	- 8.34		4.27		10.02	
MAPS Internal Repressor	- 6.05		1.85		8.04	

Examination of the group means for the discriminants presented in Table suggests a pattern among the groups. Taking the discriminants in order, several generalizations seem relevant.

If one were to simply group the two highest groups together, and the two

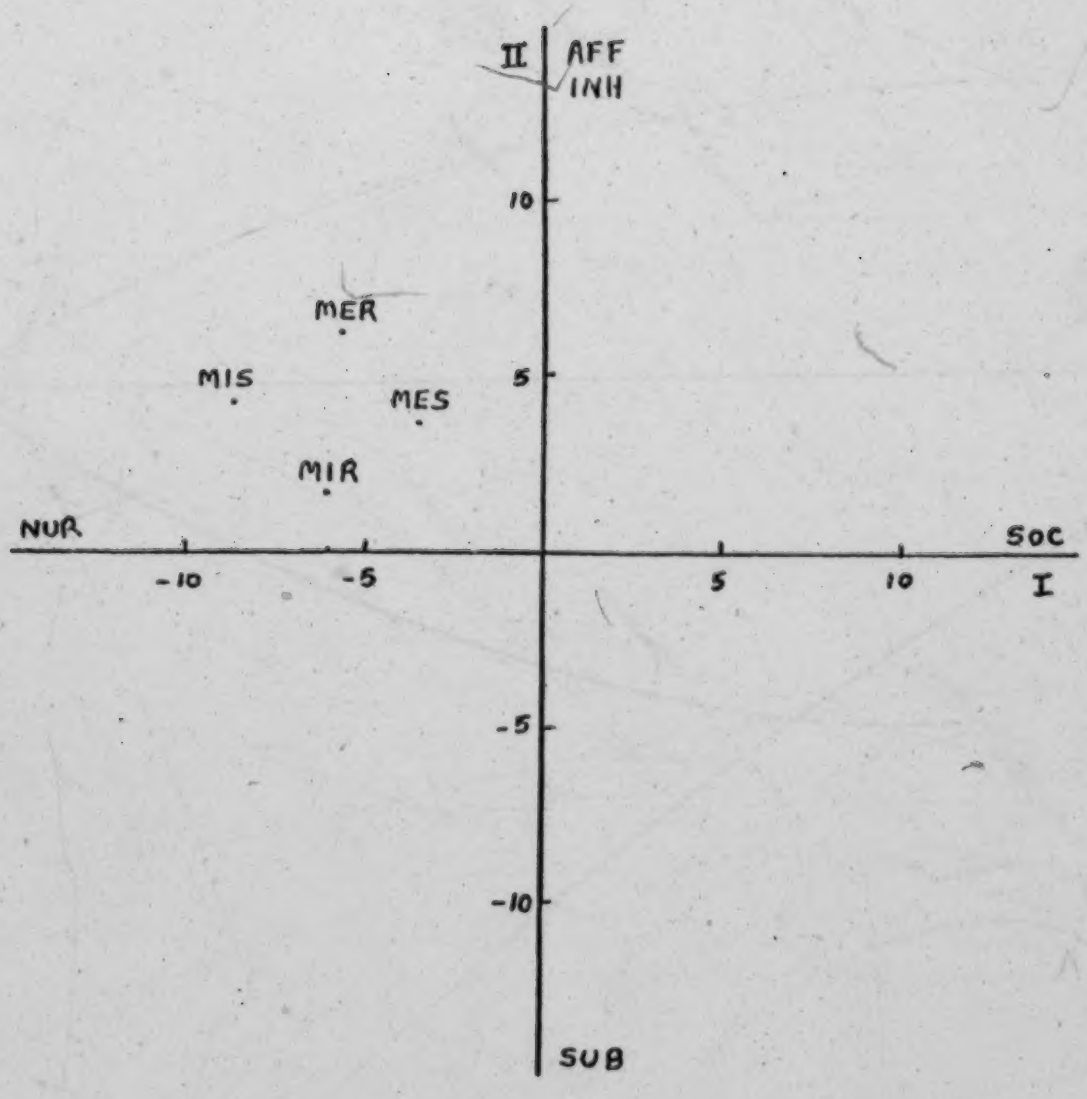


Figure 5. Centroids of Ss in MAPS External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups on the first and second discriminant functions, evaluated over their IBI scores.

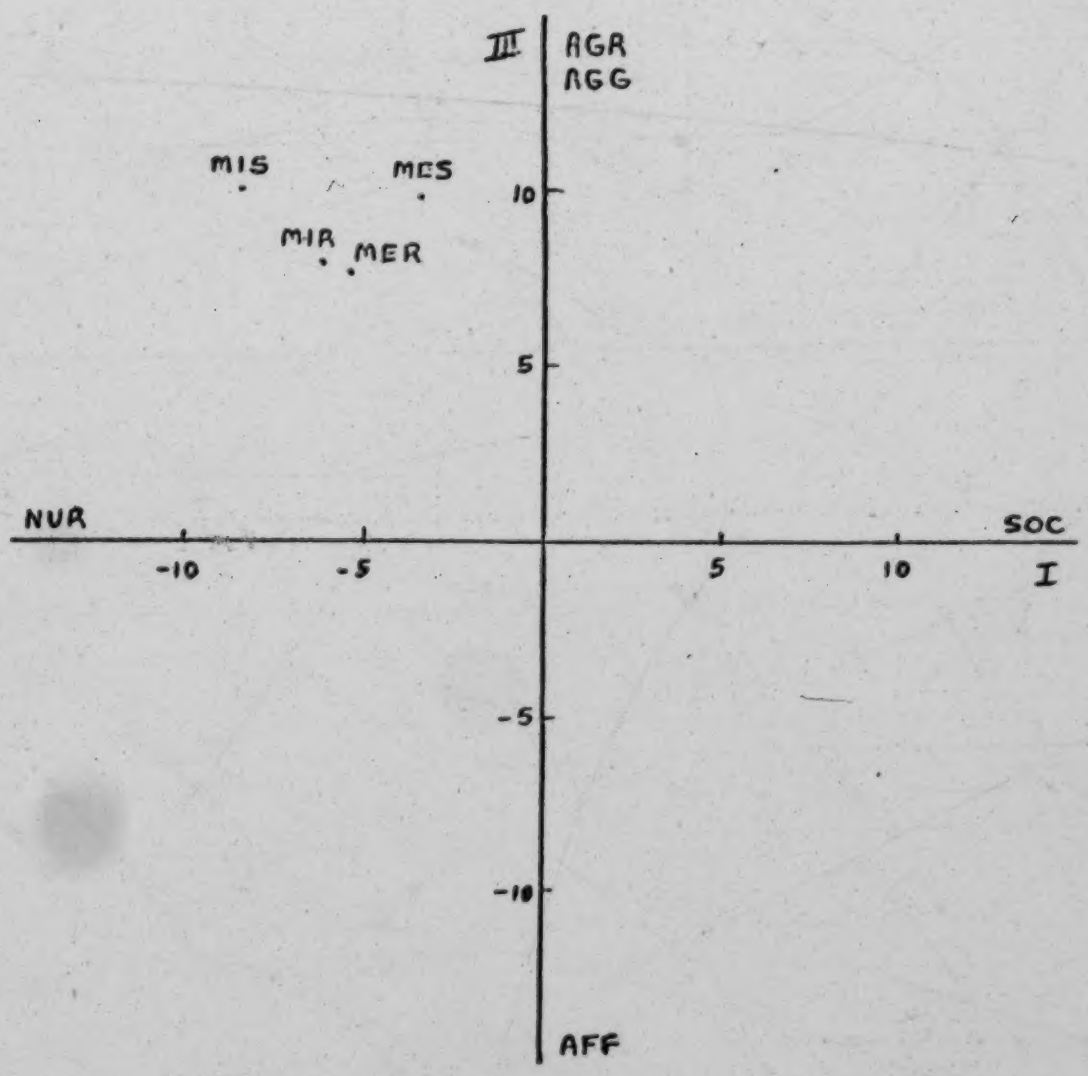


Figure 6. Centroids of Ss in MAPS External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups on the first and third discriminant functions, evaluated over their IBI scores.

lowest, in the MAPS analysis the differentiation on the first discriminant would be between Internals and Externals, with the Internal Sensitizer group being nearer the Nurturance pole than any other group.

The pattern of mean scores on the second discriminant in this analysis is suggestive of a possible interaction between the I-E and R-S variables, with the MAPS External Repressor and MAPS Internal Sensitizer groups toward the Affection/Inhibition pole and MAPS External Sensitizers and MAPS Internal Repressors toward the Submissiveness pole.

The third discriminant accounted for only 8% of the variance. However, it might be noted that the External Sensitizer group had a relatively high score on this dimension, placing them toward the Aggression/Agreeableness pole.

To summarize, the four MAPS groups were differentiated from one another in that highest scores were likely obtained by the following groups: MAPS External Sensitizers: Aggression/Agreeableness; MAPS External Repressors: Affection/Inhibition; MAPS Internal Sensitizers: Nurturance and Aggression/Agreeableness; and MAPS Internal Repressors: Submissiveness.

Summarizing the low-scoring tendencies, the MAPS groups showed the following trends toward low scores: MAPS External Sensitizers: Affection; MAPS External Repressors: Submissiveness; MAPS Internal Sensitizers: Sociability and Affection; and MAPS Internal Repressors: Affection/Inhibition.

Discussion. A clear and unambiguous interpretation of the foregoing data is not possible, primarily because of the lack of evidence of outstanding differences between the groups. As already noted, only five of the 15 IBI variables were able to significantly differentiate between the four groups, and only two of the three discriminant functions approached significance. However, the differences between the groups appear to warrant some interpretation, which will of course be speculative.

To facilitate discussion, we will take each of the four main groups - Internal Sensitizers, Internal Repressors, External Sensitizers and External Repressors - in order, and outline the hypothesized IBI characteristics, pointing

to the IBI scales which were highest for each group.

1. Internal Sensitizers. It was hypothesized that Self-blaming Internals (Internal Sensitizers) would be rated highest on the three IBI scales in the lower right quadrant - Abasement, Deference and Agreeableness. In the psychiatric population with which we are dealing it was proposed that this group's Internal orientation, suggesting feelings of personal responsibility, combined with their lack of effective defenses, would lead them to feelings of personal unworthiness which would be reflected in the high ratings in these three IBI behavioral scales.

The data from the discriminant analysis do not support this picture. The Internal Sensitizers achieved the highest scores of any of the groups on the first discriminant, this discriminant was most clearly defined by Nurturance at one pole and Sociability at the other. This would suggest that the Internal Sensitizers would be characterized as relatively more Nurturant (offering help, support, sympathy and counsel to others) and less sociable (showing tendency to join groups, to be included with others, and to be gregarious).

These IBI characteristics do not correspond with the R-S theoretical description of Internal Sensitizers as worriers, self-critical, having a negative self-concept and depressed.

If the reader will recall, the Internal Sensitizers, contrary to prediction, expressed MAPS Counterdependent themes. It had been hypothesized that Counterdependent individuals (Internal Repressors, rather than Sensitizers) would have high IBI scores on Nurturance. The findings from the discriminant analyses further verify the trend for the Internal Sensitizers to behave more like what had been expected from the Internal Repressor group.

It is interesting to note that Weissman and Ritter (1970) found that Repressors were more nurturing than Sensitizers. On the other hand, their Sensitizers had certain ego strengths which were apparent on the Gough and Heilbrun (1965) Adjective Check List, the Experience Enquiry (Fitzgerald, 1966) and the Barron Ego Strength Scale (Barron, 1953).

Sensitizers, while critical, impatient, action-

> oriented and personally more troubled, also have the capacity for personal integration (ego strength) and for more creative potential than previous literature would indicate . . . . They have certain ego strengths (equal to normal) which provide them with the capacity to effect significant and perhaps more creative changes in their relationships with others and in their impersonal environment (Weissman & Ritter, 1970, pp. 859, 864).

Weissman and Ritter's comments appear to have relevance for the Internal Sensitizer group in the present study. Of the two Sensitizer groups, the Internal Sensitizers were the most nurturing. This group has already been described, both in terms of MAPS themes and IBI behaviors, as apparently more "well-adjusted" than the other groups.

2. Internal Repressors. It was hypothesized that Counterdependent Internals (Internal Repressors) would be rated highest on those IBI scales in the upper right quadrant - Exhibition, Sociability, Affection and Nurturance. It was proposed that this group's Internal autonomous orientation, combined with repressive defenses, would lead to greater exhibition, sociability, affection and nurturance.

Again, the data do not support this picture. This group was most clearly distinguished from the other groups on the second discriminant which was defined at one pole by Affection and Inhibition. The other pole, toward which the Internal Repressors tended, was defined by Submissiveness. The clearest statement that the data seem to warrant is that the Internal Repressors are differentiated from the other groups by being more submissive (showing passivity, docility and compliance to direction by others) and less affectionate (expressing warmth and friendliness) and less inhibited (showing a tendency toward shyness and withdrawal from attention of others).

These IBI characteristics appear to fit most closely with the theoretical description of Internal Sensitizers as having tendencies toward self-blame; this description was based on MAPS Self-blaming themes, which in fact were

expressed most by the Internal Repressor group (contrary to prediction). Two of the IBI Submissiveness items were: "Gives in rather than fight for his rights in a conflict" and "Shows no irritation or anger even when justified;" these items could be indicative of self-blaming tendencies.

3. External Sensitizers. It was hypothesized that Dependent Externals (External Sensitizers) would rate highest on the IBI scales in the lower left quadrant - Detachment, Inhibition, Submissiveness and Succorance. It was proposed that this group's External dependent orientation, when combined with lack of effective defenses, would lead them to be dependent and thus inhibited, submissive and succorant.

Again, the data do not support this picture. This group was the least clearly distinguished in the discriminant analysis. Their mean scores on the first two discriminants were in the mid-range. They seemed most clearly distinguished on the third discriminant, which was the weakest of the three, accounting for only a small amount of the variance among the groups. However, if we take this distinction at face value, the External Sensitizers scored highest on the pole of the third discriminant defined by Agreeableness and Aggression. The opposite pole was best defined by Affection. Neither Aggression nor Agreeableness were in the expected quadrant.

It is interesting to note that Aggression and Agreeableness were in different quadrants; they were represented on different factors as well. If we can assume that the factors substantiated by present and past analyses represent psychologically consistent orientations to the social world, these results would suggest a possible area of conflict for the External Sensitizers. On the one hand they tend to be aggressive (showing criticism, ridicule and punitiveness toward others), and on the other hand they are more agreeable (being cooperative, helpful and considerate).

It had been expected that External Repressors, because of their other-blaming tendencies, would be the most aggressive group. As far as the IBI characteristics are concerned, the External Sensitizer group appears to be more like what had been expected from the External Repressor group.

However, the literature would tend to support the finding that Sensitizers are more aggressive than Repressors, and more cynical and critical of others (Weinberg, 1963; Merbaum & Kazaoka, 1967; Weissman & Ritter, 1970; and Mayo, Walton & Littman, 1971).

4. External Repressors. It was hypothesized that Other-blaming Externals (External Repressors) would be rated highest on Dominance, Competition, Aggression and Mistrust, the IBI scales in the upper left quadrant. It was proposed that this External group's orientation toward shifting responsibility for their situation to outside sources, combined with repressive defenses, would lead to greater dominance, competition, aggressiveness and mistrust in their observed interpersonal behaviors.

As with the other three groups, the data do not support this picture. The External Repressor group was most clearly differentiated from the other groups on the Affection/Inhibition pole of the second discriminant and again on the Affection pole of the third discriminant.

The fact that Affection and Inhibition were on opposite poles in the bi-polar factor, "Sociability," suggests a conflict area for the External Repressors. They present an appearance of being affectionate (expressing warmth and friendliness) while at the same time their inhibition, according to the IBI description, is revealed in an apparently opposite tendency toward shyness and withdrawal from attention of others.

It had been proposed that the External Sensitizer group would be inhibited. Again, as was the case with the Internal groups, the External Repressors and External Sensitizers appear to behave more in terms of what was expected from the other group.

The unexplained conflict between affection and inhibition in the External Repressor group may reflect the differences in other research findings regarding Repressors, who were more extroverted in Joy's (1963), Weinberg's (1963) and Endler's (1963) studies, in contradiction to Weissman and Ritter's (1970) observation that their Repressor group was more introverted.

Sex, Age, Intelligence and Diagnostic Categories in I-E External, Middle and Internal Groups

Sex. The total group of 120 Ss, 70 males and 50 females, reflected no significant differences in terms of male and female group membership in the I-E External, Middle and Internal groups ($\chi^2 = 3.80$, df = 2, $p > .10$).

Age. The age range (20 - 55 years) in the total sample was divided at the median into a low age group (20 - 30 years) and a high age group (31 - 55 years), with 60 Ss in each group. Age correlated -.26 with the I-E raw scores, and a chi square test comparing ages in the I-E External, Middle and Internal groups was significant ($\chi^2 = 14.6$, df = 2, $p < .001$); indicating that significantly more older persons were found in the Internal group.

Intelligence. The prorated WAIS vocabulary intelligence range (93 - 136) divided at the median into low intelligence (93 - 106) and high intelligence (107 - 136). The IQ raw scores correlated .01 with the I-E raw scores, and a chi square test indicated no significant differences in intelligence ratings among the I-E External, Middle and Internal groups ($\chi^2 = 0.20$, df = 2, $p > .99$).

Diagnostic categories. The total sample of 120 Ss was categorized, according to their previously assigned hospital clinical diagnoses, into three general diagnostic groups: schizophrenia, (71 Ss); psychoneurosis (23 Ss); and and personality disorder (26 Ss).

The schizophrenic patients were more specifically diagnosed as schizophrenia, paranoid (29 Ss); schizophrenia, catatonic (23 Ss); and schizophrenia, other (19 Ss).

Psychoneurosis, depressive (15 Ss); psychoneurosis, anxiety state (4 Ss); and psychoneurosis, other (4Ss) represented the breakdown of the second group into more specific diagnostic categories.

The personality disorder group was classified as personality disorder, antisocial (5 Ss); personality disorder, immature (9 Ss); and personality disorder, alcoholic (12 Ss).

No significant differences were found among the I-E External, Middle and Internal groups as far as diagnostic categories, either general or specific, were concerned ($\chi^2 = 3.75$, df = 4, $p > .30$). Correlations between the I-E raw scores and the three general diagnostic groupings (.09) and between I-E raw scores and more specific diagnostic categories (.10) were low.

Discussion. The finding that sex differences on the I-E scale appeared to be minimal in the present study was consistent with Rotter's (1966) findings and differed from Feather's (1967a, 1968) studies where females earned significantly higher scores than males.

The I-E scale showed negligible correlations with intelligence, in keeping with Strickland's (1962) and Ladwig's (1963) findings and Rotter's (1966) theory.

The writer is not aware of any studies where age differences were investigated. However, the finding that more older Ss were found in the Internal group is in keeping with the theory Internals are more psychologically mature, independent, self-controlled and insightful (Rotter, 1966; Lefcourt, 1966; Hersch & Scheibe, 1967; Tolor & Reznikoff, 1967; and Wall, 1970); these are personality characteristics which would be expected to be more developed in older Ss.

The finding that diagnostic differences on the I-E scale were minimal is contradictory to most I-E theory and studies (Cromwell et al, 1961; Tiffany & Shontz, 1963; Adler, 1964; Angyal, 1965; Lefcourt, 1966; Reissman, 1967; de Charms, 1968; Carroll, 1968; Abramowitz, 1969; Harrow & Ferrante, 1969; Williams & Vantress, 1969; and Nelson & Phares, 1971).

Diagnostic categories in the present study were based on the psychiatric diagnosis (from the International Classification of Diseases) assigned to each patient by three to four doctors, not all of whom were psychiatrists, at the Alberta Hospital. These diagnoses are often based on only one interview with the patient and may occur previous to more careful psychiatric examination and psychological testing, and so are not considered to be either adequate or accurate for scientific

research purposes. At the same time, a conclusion that could be drawn from the study is that both Internals and Externals may perhaps be found among schizophrenic, psychoneurotic and personality disorder patients, and that further research is needed into what appears to be a complex relationship between I-E control and psychiatric diagnoses.

DISCUSSION

Only the general findings of this study will be discussed here, since a discussion of the more specific findings were included in the last chapter.

The fact that both internal and external locus of control orientations were found in a psychiatric population lends some weak support to the theory of a non-linear and/or complex relationship existing between the I-E variable and psychopathology.

Employment of the MAPS test as an alternative measure of I-E control orientation was, in part, successful. The MAPS test appears to be a valid and reliable indicator of the control construct. Unfortunately, the additional expectation that the projective approach would enable further meaningful differentiation in the extreme groups was not borne out. A major weakness in the study was that only two distinct MAPS groups were identifiable - Counterdependent and Dependent. Although the number of Self-blaming and Other-blaming themes was highest in the Internal and External groups, respectively, as hypothesized, the trends were not significant and generalizations regarding these themes are tenuous. Since I-E research using projective techniques in psychiatric populations has been meager, the writer had hoped for more success in exploring the new procedure for investigating individual differences in perceived control. The reasons for the lack of success in identifying four MAPS theme groups are not clear and, as already mentioned, may be due either to inaccurate or inadequate classification of MAPS stories, or to some particular feature of the population itself, such as reluctance to express Self-blaming or Other-blaming themes, or artifically raised mood level because of medication. The potential is still clearly there, however, and future I-E research using projective techniques is indicated, particularly when the S has freedom to express intrapersonal, interpersonal and person-environment themes which may further clarify the possible diversity in both internality and externality.

The addition of the R-S variable in this study assisted in further clarification

of the expected diversity within Internal and External groups, making possible the formation of four major groups, and indicating some inconsistency with a linear viewpoint of the R-S dimension. Inclusion of the R-S variable provided the only good evidence, although weak, of interaction between the major variables. When the four major groups were formed on the basis of MAPS rather than I-E raw scores, and compared in the discriminant analyses, there were more significant differences among the MAPS rather than I-E groups as far as their observed interpersonal behaviors were concerned. The MAPS test appears to be the better discriminator of differences in observed behaviors between groups in a psychiatric population.

There apparently has been no other research linking I-E perceived control with observed interpersonal behavior rating scales; for this reason it is difficult to assess the weak evidence of validity of the IBI findings in this study. Successful replication of Lorr's (1969) factor analyses gave some support to the IBI as a valid and stable instrument across different psychiatric populations. The only study found by the author which appeared comparable to the IBI findings was that of Weissman and Ritter (1970) who compared the interpersonal behaviors of Sensitizers and Repressors. Although the similarity between their study and the present one is limited in that Weissman and Ritter did not deal with internality-externality, and their Ss' interpersonal behaviors were assessed by a self-rated adjective check list rather than being rated by others, there appeared to be some merit in comparing the four major I-E repressing and sensitizing groups with their groups.

The Internal Sensitizers' behavior was like that expected from the Internal Repressor group, both in terms of their MAPS themes (Counterdependent) and IBI behavior (Nurturance); the reverse was the case for the Internal Repressor group. Of all groups, the Internal Sensitizers were apparently more "well-adjusted" (as defined by MAPS themes and IBI behaviors) than the other groups. While this finding is unexpected, it is in keeping with Weissman and Ritter's conclusion that Sensitizers have more capacity for personal integration than previous literature has indicated.

The Internal Repressors, in terms of their unexpected MAPS themes (Self-blaming) and IBI behaviors (Submissiveness and Agreeableness) again resemble Weissman and Ritter's Ss; their Repressors were more responsible and cooperative.

Although the difference wasn't significant, the fact that the External Sensitizer group had numerically higher scores on the IBI Aggression scale was surprisingly inconsistent with expectations, and supported Weissman and Ritter's finding that Sensitizers were aggressive, cynical and critical of others.

Both External groups expressed possible psychological conflict in their IBI scores; the External Sensitizers were both aggressive and agreeable, while the External Repressors were both affectionate and inhibited. Although none of these tendencies were significant, they may be worth some comment. One explanation for the inconsistencies might be that Externals would be more likely than Internals to demonstrate conflicts in their observed interpersonal behaviors. Joe's (1971) review of the literature has presented ample theoretical and empirical evidence for this viewpoint.

The External Sensitizers' conflict between aggression and agreeableness might reflect "psychological reactance" (Brehm, 1966), e.g., a reaction against further externality and a desire to re-establish or strive for more internality. Their desire for more internality may lead them to be more aggressive, while their need to remain External could be expressed in agreeableness.

The conflict between affection and inhibition in the External Repressor group is difficult to explain. It may be that an individual who is both affectionate and inhibited is experiencing some psychological difficulty along the introversion-extroversion continuum and is alternating between the two positions. The literature regarding Repressors and introversion-extraversion has reported inconsistent findings. Repressors were more extraverted in Joy's (1963), Weinberg's (1963) and Endler's (1963) studies, and more introverted in Weissman and Ritter's (1970) study.

Comparison of the present study with Weissman and Ritter's research is not sufficient to warrant any strong generalizations, because of the insignificant findings in this study as well as the different methods of assessing interpersonal behaviors in each study. Further research is needed on the relationship of perceived control and defensive styles to interpersonal behaviors. A serious limitation of behavior rating scales such as the IBI is that the factor structure of the scale may reflect the rater's idea of what goes together in a set of particular

behaviors and may influence his observations and his behavior ratings. Actual behavior counts would decrease the subjectivity of the raters and might be a useful alternative to rating scales in future research.

Some of the major problems in the present study could perhaps be resolved in future research by using a patient sample consisting of all individuals in a particular ward setting rather than volunteers, and including in the final sample only those who are receiving very little or no medication; in this way the possibility of forming Self-blaming and Other-blaming groups might be increased.

At the risk of attempting to eliminate post-decision dissonance, the writer still has the opinion, in the face of weak support for the hypothesis, that diversity within the externality-internality dimension does exist in psychiatric populations and can be expressed in thought samples, defensive styles and observed interpersonal behaviors.

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APPENDIX A

I-E SCALE

Instructions

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. REMOVE THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and circle either a or b to indicate which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases. be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

---

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run, people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try, some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like

9. a. I have often found that what is going to happen will happen.
   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.
    b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.
    b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.
    b. There is some good in everybody.

15. a. In my case, getting what I want has little or nothing to do with luck.
    b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.
    b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
    b. There really is no such thing as "luck."

19. a. One should always be willing to admit his mistakes.
    b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.
    b. How many friends you have depends upon how nice a person you are.

21. a. In the long run, the bad things that happen to us are balanced by the good ones.
    b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.
    b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.
    b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.
    b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.
    b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.
    b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.
    b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.
    b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
    b. In the long run, the people are responsible for bad government on a national as well as on a local level.

External items:

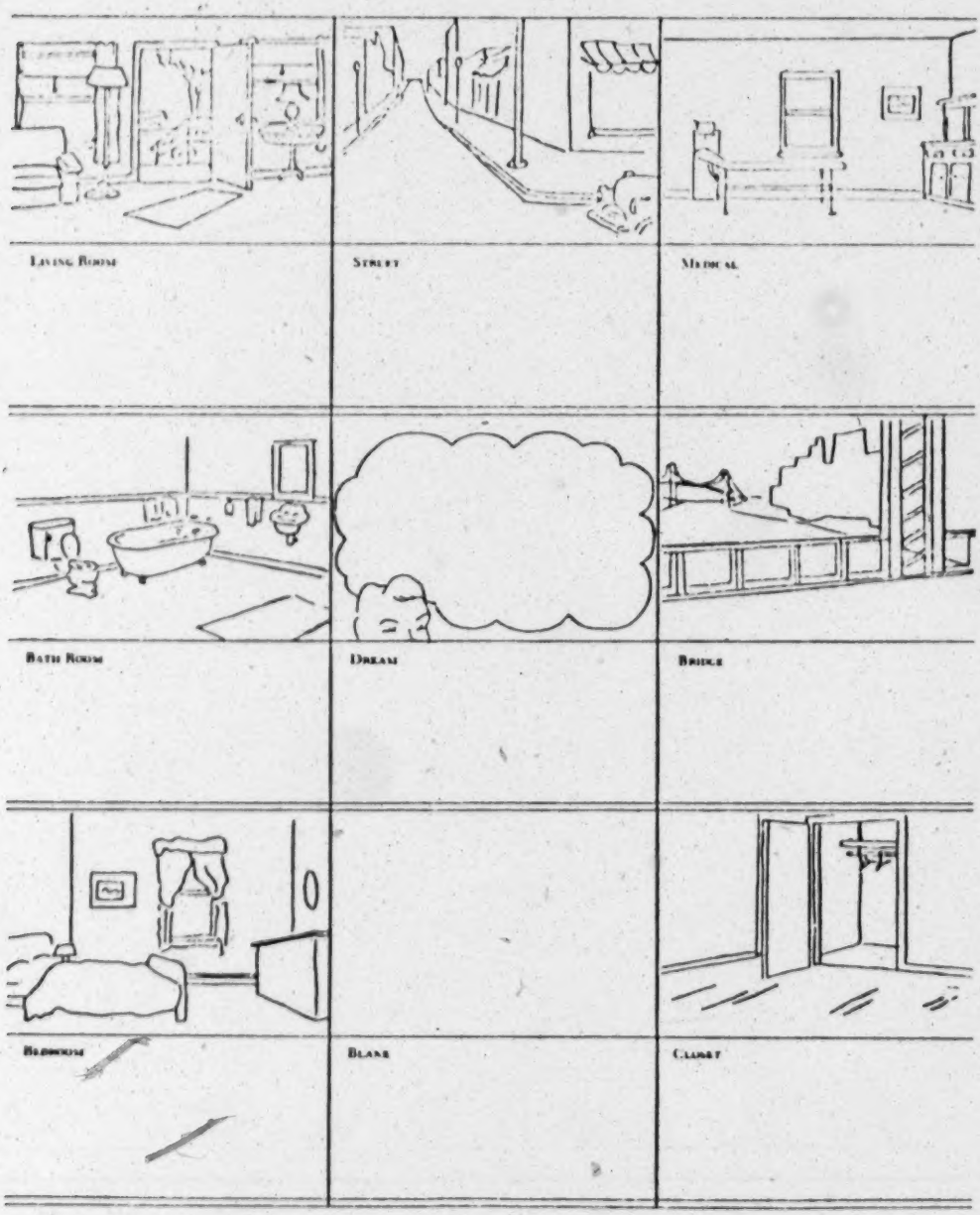
2a, 3b, 4b, 5b, 6a, 7a, 9a, 10b, 11b, 12b, 13b, 15b, 16a, 17a, 18a, 20a, 21a, 22b, 23a, 25a, 26b, 28b, 29a.

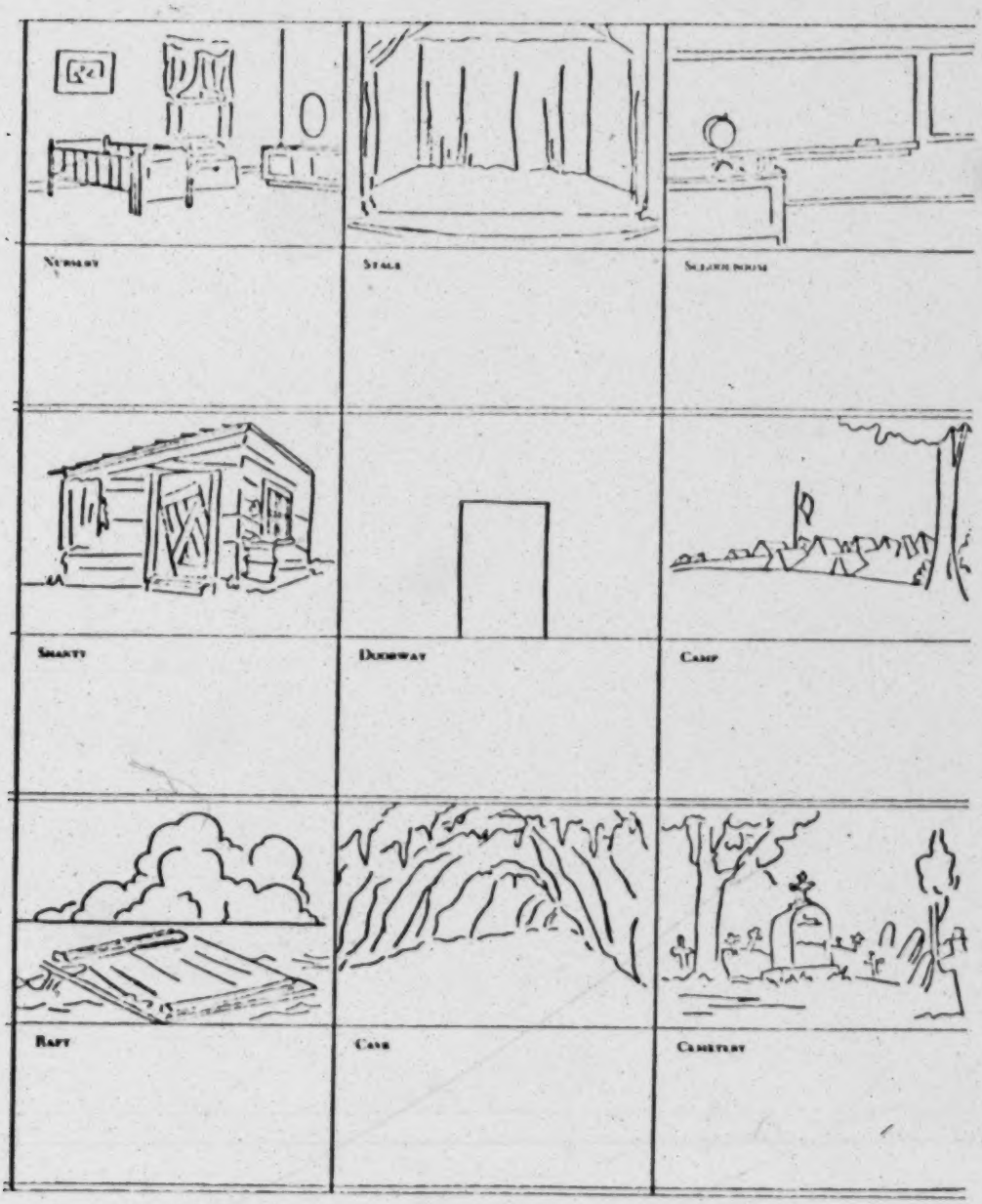
Buffer items:

1, 8, 14, 19, 24, 27.

APPENDIX B

MAPS FIGURE LOCATION SHEET

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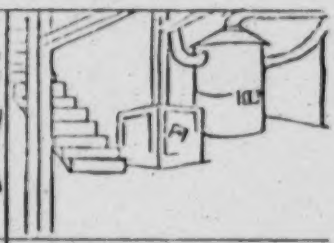
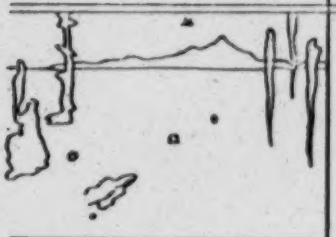
Stable
Shanty
Doorway
Camp
Raft
Cave
Cemetery

ATTIC

FOREST



CELLAR



LANDSCAPE

ADDITIONAL COMMENTS

MAPS . FIGURES

APPENDIX C

R-S SCALE

Instructions

This questionnaire consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you. You are to mark your answers on the answer sheet you have. Remember to give your own opinion of yourself. Do not leave any blank spaces if you can avoid it; try to make some answer to every statement.

---

1. I have a good appetite.
2. I wake up fresh and rested most mornings.
3. I am easily awakened by noise.
4. I like to read newspaper articles on crime.
5. My hands and feet are usually warm enough.
6. My daily life is full of things that keep me interested.
7. I am about as able to work as I ever was.
8. There seems to be a lump in my throat much of the time.
9. I enjoy detective or mystery stories.
10. Once in a while I think of things too bad to talk about.
11. I am very seldom troubled by constipation.
12. At times I have fits of laughing and crying that I cannot control.
13. I am troubled by attacks of nausea and vomiting.
14. I feel that it is certainly best to keep my mouth shut when I'm in trouble.
15. At times I feel like swearing.

16. I find it hard to keep my mind on a task or job.

17. I seldom worry about my health.

18. At times I feel like smashing things.

19. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."

20. My sleep is fitful and disturbed.

21. Much of the time my head seems to hurt all over.

22. I do not always tell the truth.

23. My judgment is better than it ever was.

24. Once a week or oftener I feel suddenly hot all over, without apparent cause.

25. I am in just as good physical health as most of my friends.

26. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.

27. I am almost never bothered by pains over the heart or in my chest.

28. I am a good mixer.

29. Everything is turning out just like the prophets of the Bible said it would.

30. I do not read every editorial in the newspaper every day.

31. I sometime keep on at a thing until others lose their patience with me.

32. I wish I could be as happy as others seem to be.

33. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.

34. I get angry sometimes.

35. Most of the time I feel blue.

36. I sometimes tease animals.

37. I am certainly lacking in self-confidence.

38. I usually feel that life is worth while.

39. It takes a lot of argument to convince most people of the truth.

40. Once in a while I put off until tomorrow what I ought to do today.

41. I think most people would lie to get ahead.

42. I do many things which I regret afterwards (I regret things more or more often than others seem to).

43. I go to church almost every week.

44. I have very few quarrels with members of my family.

45. I believe in the second coming of Christ.

46. My hardest battles are with myself.

47. I have little or no trouble with my muscles twitching or jumping.

48. I don't seem to care what happens to me.

49. Sometimes when I am not feeling well I am cross.

50. Much of the time I feel as if I have done something wrong or evil.

51. I am happy most of the time.

52. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.

53. Often I feel as if there were a tight band about my head.

54. My table manners are not quite as good at home as when I am out in company.

55. I seem to be about as capable and smart as most others around me.

56. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

57. The sight of blood neither frightens me nor makes me sick.

58. Often I can't understand why I have been so cross and grouchy.

59. I have never vomited blood or coughed up blood.

60. I do not worry about catching diseases.

61. At times my thoughts have raced ahead faster than I could speak them.

62. If I could get into a movie without paying and be sure I was not seen I would probably do it.

63. I commonly wonder what hidden reason another person may have for doing something nice for me.

64. I believe that my home life is as pleasant as that of most people I know.

65. Criticism or scolding hurts me terribly.

66. My conduct is largely controlled by the customs of those about me.

67. I certainly feel useless at times.

68. At times I feel like picking a fist fight with someone.

69. I have often lost out on things because I couldn't make up my mind soon enough.

70. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.

71. I would rather win than lose in a game.

72. Most nights I go to sleep without thoughts or ideas bothering me.

73. During the past few years I have been well most of the time.

74. I have never had a fit or convulsion.

75. I am neither gaining nor losing weight.

76. I cry easily.

77. I cannot understand what I read as well as I used to.

78. I have never felt better in my life than I do now.

79. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.

80. I do not tire quickly.

81. I like to study and read about things that I am working at.

82. I like to know some important people because it makes me feel important.

83. What others think of me does not bother me.

84. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things.

85. I frequently have to fight against showing that I am bashful.

86. I have never had a fainting spell.

87. I seldom or never have dizzy spells.

88. My memory seems to be all right.

89. I am worried about sex matters.

90. I find it hard to make talk when I meet new people.

91. I am afraid of losing my mind.

92. I am against giving money to beggars.

93. I frequently notice my hand shakes when I try to do something.

94. I can read a long while without tiring my eyes.

95. I feel weak all over much of the time.

96. I have very few headaches.

97. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.

98. I have had no difficulty in keeping my balance in walking.

99. I do not have spells of hay fever or asthma.

100. I do not like everyone I know.

101. I wish I were not so shy.

102. I enjoy many different kinds of play and recreation.

103. I like to flirt.

104. In walking I am very careful to step over sidewalk cracks.

105. I frequently find myself worrying about something.

106. I gossip a little at times.

107. I hardly ever notice my heart pounding and I am seldom short of breath.

108. I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing.

109. I get mad easily and then get over it soon.

110. I brood a great deal.

111. I have periods of such great restlessness that I cannot sit long in a chair.

112. I dream frequently about things that are best kept to myself.

113. I believe I am no more nervous than most others.

114. I have few or no pains.

115. Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."

116. I can be friendly with people who do things which I consider wrong.

117. Sometimes at elections I vote for men about whom I know very little.

118. I have difficulty in starting to do things.

119. I sweat very easily even on cool days.

120. It is safer to trust nobody.

121. Once a week or oftener I become very excited.

122. When in a group of people I have trouble thinking of the right things to talk about.

123. When I leave home I do not worry about whether the door is locked and the windows closed.

124. I do not blame a person for taking advantage of someone who lays himself open to it.

125. At times I am all full of energy.

126. My eyesight is as good as it has been for years.

127. I have often felt that strangers were looking at me critically.

128. I drink an unusually large amount of water every day.

129. Once in a while I laugh at a dirty joke.

130. I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer.

131. I work under a great deal of tension.

132. I am likely not to speak to people until they speak to me.

133. I have periods in which I feel unusually cheerful without any reason.

134. Life is a strain for me much of the time.

135. In school I found it very hard to talk before the class.

136. Even when I am with people I feel lonely much of the time.

137. I think nearly anyone would tell a lie to keep out of trouble.

138. I am easily embarrassed.

139. I worry over money and business.

140. I almost never dream.

141. I easily become impatient with people.

142. I feel anxiety about something or someone almost all the time.

143. Sometimes I become so excited that I find it hard to get to sleep.

144. I forget right away what people say to me.

145. I usually have to stop and think before I act even in trifling matters.

146. I often feel as if things were not real.

147. I have a habit of counting things that are not important such as bulbs on electric signs, and so forth.

148. I have strange and peculiar thoughts.

149. I get anxious and upset when I have to make a short trip away from home.

150. I have been afraid of things or people that I knew could not hurt me.

151. I have no dread of going into a room by myself where other people have already gathered and are talking.

152. I have more trouble concentrating than others seem to have.

153. I have several times given up doing a thing because I thought too little of my ability.

154. Bad words, often terrible words, come into my mind and I cannot get rid of them.

155. Sometimes some unimportant thought will run through my mind and bother me for days.

156. Almost every day something happens to frighten me.

157. I am inclined to take things hard.

158. I am more sensitive than most other people.

159. At periods my mind seems to work more slowly than usual.

160. I very seldom have spells of the blues.

161. I wish I could get over worrying about things I have said that may have injured other people's feelings.

162. People often disappoint me.

163. I feel unable to tell anyone all about myself.

164. My plans have frequently seemed so full of difficulties that I have had to give them up.

165. Often, even though everything is going fine for me, I feel that I don't care about anything.

166. I have sometimes felt that difficulties were piling up so high that I could not overcome them.

167. I often think, "I wish I were a child again."

168. I have often met people who were supposed to be experts who were no better than I.

169. It makes me feel like a failure when I hear of the success of someone I know well.

170. I am apt to take disappointments so keenly that I can't put them out of my mind.

171. At times I think I am no good at all.

172. I worry quite a bit over possible misfortunes.

173. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.

174. I find it hard to set aside a task that I have undertaken, even for a short time.

175. I have several times had a change of heart about my life work.

176. I must admit that I have at times been worried beyond reason over something that really did not matter.

177. I like to let people know where I stand on things.

178. I have a daydream life about which I do not tell other people.

179. I have often felt guilty because I have pretended to feel more sorry about something than I really was.

180. I feel tired a good deal of the time.

181. I sometimes feel that I am about to go to pieces.

182. Often I cross the street in order not to meet someone I see.

Sensitizer Items:

True: 8, 10, 12, 14, 16, 19, 20, 21, 26, 32, 35, 37, 39, 41, 42, 46, 48, 50, 52, 53, 56, 58, 63, 65, 66, 67, 68, 69, 70, 76, 77, 79, 82, 84, 85, 89, 90, 91, 93, 95, 97, 101, 104, 105, 106, 110, 111, 112, 118, 120, 121, 122, 127, 128, 130, 131, 132, 134, 135, 136, 137, 138, 139, 141, 142, 143, 144, 145, 146, 147, 148, 150, 152, 153, 154, 155, 156, 157, 158, 159, 161, 162, 163, 164, 165, 166, 167, 169, 170, 171, 172, 173, 175, 178, 179, 180, 181, 182.

False:

2, 5, 6, 17, 25, 27, 28, 38, 44, 47, 51, 55, 60, 72, 78, 80, 81, 87, 88, 94, 96, 98, 102, 107, 113, 114, 123, 151, 160.

Buffer items:

1, 3, 4, 7, 9, 11, 13, 15, 18, 22, 23, 24, 29, 30, 31, 33, 34, 36, 40, 43, 45, 49, 54, 57, 59, 61, 62, 64, 71, 73, 74, 75, 83, 86, 92, 99, 100, 103, 106, 108, 115, 116, 117, 119, 124, 125, 126, 129, 133, 140, 149, 168, 174, 176, 177.

APPENDIX F

WAIS VOCABULARY SUBTEST

	Score	A. VOCABULARY
1. Eat		
2. Sip		
3. Envy		
4. Water		
5. Paper		
6. Breakfast		
7. Fabric		
8. Shoe		
9. Assemble		
10. Conceal		
11. Enormous		
12. Hesitate		
13. Sentence		
14. Regulate		
15. Commerce		
16. Ponder		
17. Canvas		
18. Designate		
19. Domestic		
20. Consume		
21. Terminate		
22. Obstruct		
23. Penetrate		
24. Sanctuary		
25. Mutilate		
26. Reluctant		
27. Calamity		
28. Fortitude		
29. Tranquil		
30. Edifice		
31. Compassion		
32. Tangible		
33. Pneumatic		
34. Audacious		
35. Chimerical		
36. Trivial		
37. Encumber		
38. Plausible		
39. Impede		
40. Truculent		

APPENDIX F

CRITERIA FOR QUANTITIATIVE AND QUALITIATIVE SCORING OF BELIEFS IN INTERNAL AND EXTERNAL CONTROL OF REINFORCEMENT AS EXPRESSED IN MAPS STORIES

MANUAL

DOROTHY J. CROUSE

1971

CRITERIA FOR QUANTITATIVE SCORING OF BELIEFS IN INTERNAL AND EXTERNAL CONTROL OF REINFORCEMENT AS EXPRESSED IN MAPS STORIES

The individual's beliefs in internal and external control of reinforcement may be expressed in projective stories (Witkin et al, 1954: Lefcourt & Steffy, 1970). Dies (1968) rated the I-E control variable along a five-point continuum, ranging from considerable degree of perceived external control (5) to considerable degree of perceived internal control (1) on the part of the central figure in TAT stories. The Dies scoring method and manual will be used in the present study, as they apply to MAPS narratives.

Dies has drawn attention to the wide variations that exist in TAT stories regarding the general adequacy of the principal character in social situations. The same variations should exist in MAPS narratives.

1 - Criteria for Scoring Beliefs in External Control of Reinforcement

> In relating their TAT stories, some persons portray their central figure as anticipating failure, disappointment, rebuff, or as being the victim of a variety of external events over which he has little direction. When an outcome or event is perceived as being beyond the control of the main character in a story, this is interpreted as indicating a generalized expectancy of external control on the part of the story teller. In such cases, outcomes are described as being independent of the hero's actions and influenced primarily by such factors as luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of forces surrounding him. The externally controlled individual sees relatively little instrumentality in his own behavior and regards himself as the passive recipient of reinforcements, either positive or negative, dispensed by external forces or agents (Dies 1968, Manual, p. 1).

The following MAPS story illustrates a belief in external control.

> Story 1: (Cemetery). A woman has lost her husband and a child and she was filled with sorrow because she thought it was the end of everything. The priest talked with her. She went every day to the cemetery and he didn't think this was good. He talked with her and he was very sorrowful too, because with all his talking she still could not accept it, and she went away still sorrowful. She is still sorrowful and will always be sorrowful.

The story is rated "(5) Considerable degree of external control." The central figure finds herself in an intolerable situation brought about by the death of her husband and child and feels unable to accept their death or do anything to overcome her sorrow, despite efforts by the priest to help her do so. The lack of assertiveness, determination, or power of the principal character gives the story a (5) rating. She is unable to undertake responsible actions to cope with or change the adverse environmental circumstances.

A rating of "(5) Considerable degree of external control" is also given to the next story.

> Story 2: (Cave). We'll call this a mine. Poor John is working as a miner. He's been forced into this job because he has a family to support. Even though he's frightened to death of dark and deep places such as this mine is, he had to accept that job because it was the only one available. The future doesn't look good for him and for ever getting what he wants because he's getting older and the opportunity for him to change is diminishing.

The main figure is portrayed as being forced to remain in a frightening job situation against his will. He is unable to express direct rebellion and shows very little expectancy of being able to overcome his fear. As Dies points out,

> Persons who believe in external control not only portray their figures as being victims of ungovernable environmental forces, but also as incapable of coping effectively with their own impulses and emotions. They feel unable to maintain control over such feelings as anger, depression, euphoria, and in addition may demonstrate a lack of understanding regarding such experiences as physical illnesses, handicaps, and mental or emotional distress (Dies, 1968, Manual, p. 4).

Story 3 is rated "(4) Moderate degree of external control."

> Story 3: (Bathroom). This little boy is having a bath. He's been out playing and has got himself real dirty. Now

> he finds himself in the bathroom with his mother and she wants him to have a bath and get cleaned up. Like all little boys, he's reluctant and doesn't like the water too much. The outcome is that he just had to go in the tub regardless of whether he wanted to or not.

The little boy is exposed to what he feels is an unpleasant situation and is unable to avoid it. The situation ends when the mother forces him to abide by her decision.

The following story, rated "(4) Moderate degree of external control," has a favorable outcome.

> Story 4: (Dream). The father is bringing home a baseball bat and some other present to his son. Could be a baseball mitt and a bat. The boy looks happy about it, he's already surprised when he sees it. The father imagines the son will have a real good time playing with the bat and mitt. The boy gets the gifts for his birthday and is real happy for them and thanks his father.

This represents a situation where the central figure receives gifts without effort on his part, and so becomes the passive object of positive external forces. Such stories convey a belief in external control of reinforcements.

Stories in which the principal character is in a different life situation where problems arise and are then left unsolved reflect a belief in external control.

> Story 5: (Dream). This is a middle-aged man in this picture and he's angry because in the past people have fed him a lot of fairy tales, when he was younger, tales about ghosts, witches, Santa Claus and about things that really didn't exist. Presently he realizes that these things aren't in existence and that they did more to harm him than were good for him. People harmed him by telling him these lies. For the future, he hopes that all lies will be done away with and man shall live with one another in truth. On TV you see a lot of conflict about what the truth is, e.g., the war in Viet Nam; on one station you see the prisoners are being mistreated and on another they say they're not and I don't know who to believe. It upsets me, I don't know where the truth is. No one knows. I wish I knew.

In this story, rated "(5) Considerable degree of external control," the central character succumbs to influences from various contradictory external forces. Because of his inability to engage in realistic problem-solving behavior, he is unable to cope

with these forces and come to a satisfactory solution regarding his personal ideals or "truths."

> In general, narratives which present the central figure as solving problems through fantasy, reveries, wishes, and other unrealistic behaviors also illustrate a belief in external control, for under such circumstances there is no reality-oriented problem solving behavior. The individual is not actively coping with dilemmas or mastering his environment, but is instead employing unrealistic thoughts to accomplish his goals. In some cases a particular story may have a "happily-ever-after" quality to the ending. If there are no indications within the major portion of the story of responsible actions on the part of the principal figure, this may (but not necessarily) reflect an external orientation (Dies 1968, Manual, p.3).

Unrealistic coping with a problem is seen in Story 6, where the central figure indulges in fantasy (a dream) which is not followed by planning and constructive action. The story is rated "(5) Considerable degree of external control."

> Story 6: (Blank). This story is about a man coming home from World War 11. The other thought is the same man before action. The present is that he's just found an alley to sleep in, and starts dreaming, then gets an idea of being a superbeing. As Superman he meets an attractive girl. She gets ready for action - strips down to nothing. Unfortunately, all of a sudden he comes out of his dream and is greeted by his real wife. His first wife also enters his dream.

The next story reflects a general apathy in the face of problems and is rated "(4) Moderate degree of external control." The circumstances surrounding the development of the situation are left vague and no solution is attempted.

> Story 7: (Bedroom). His wife has just left him, in the middle of the night. He doesn't know what to do with himself. Just looking at the bed and sees his wife isn't there. He eventually goes back to bed and goes to sleep.

In evaluating a story teller's orientation with regard to experienced control, Dies attempts to assess the nature of the stresses facing the central character.

> . . . A strong and active person in an environment of plenty is quite a different concept than this same character in an environment of want and poverty.... It is probable that more personalized themes more accurately portray the subject's genuine attitude toward personal

control.

> What is most crucial for an evaluation of a subject's belief in external control is the competency and general adequacy of his principal characters in coping with environmental and intrapersonal conflict....The more he fails to cope effectively with problems, the more the story teller may be regarded as holding a generalized expectancy of external control (Dies, 1968, Manual, pp. 3 - 4).

11 - Criteria for Scoring Beliefs in Internal Control of Reinforcement

> When events are construed as being contingent upon the actions of the principal character, this is defined as a belief in internal control of reinforcement. Internal control refers, therefore, to the perception of positive and/or negative events as being a consequence of one's own actions and thereby under personal control (Dies, 1968, Manual, p. 6).

> Story 8: (Classroom). We'll call her "Miss Jennifer." She was born and raised on a farm and had to work her way through school and university to become a math teacher. She is now teaching math in a public school, but is furthering her education to become a math teacher in university. After four years of hard work she'll achieve her certificate to teach in a university and then will teach there.

The main figure copes in a competent fashion with the present task of teaching and furthering her education in order to fulfill her ambition. Her eventual success results from her own efforts, showing a belief in internal control of reinforcement. The story is rated "(1) Considerable degree of internal control."

The next story is also rated "(1) Considerable degree of internal control."

> Story 9: (Landscape). Since this is the desert, the pilot was flying an airplane and was forced down over the desert and had to walk out. He's thinking of what to do, whether to wait for rescue or to walk out. After two days or three, he decides to walk toward the higher ranges, for there's more chance to have shelter there and water. He's afraid, he's lost and is afraid of not being located, has been there a couple of days and is afraid he might not make it but he will. He'll find some berries, etc., not a very stable diet, but enough. Will continue his walking

> process until he reaches a small Mexican village at which he notifies headquarters that he's okay and they send a helicopter to pick him up.

Despite the overwhelmingly adverse external circumstances, and his own fear of not surviving, the pilot demonstrates a strong need to act on his own, with self-control and determination. He is able to overcome his fear and to initiate and carry out a responsible plan which results in his survival. As Dies observes,

> An outstanding feature in stories reflecting a belief in internal control is the tendency of the characters to deal with tasks and with the world. Determination, self-assertion, and self-control are prominent elements in the protagonist's actions. The internally oriented individual portrays events as being contingent upon the action of his central character, and not as the result of factors external or unrelated to his hero's behavior.
>
> Occasionally, the principal figure will be depicted as relatively passive in the story and upon first glance this may appear to represent an attitude of external control. Closer examination of events portrayed in the narrative, however, will sometimes disclose features that contradict this initial impression. It should be remembered that it is not the passivity of the main character which is important, for some individuals with a strong conviction regarding internal control may portray their figures as passive. It is rather the degree of responsibility accepted by the central figure for the events occurring (Dies, 1968, Manual, pp. 6 - 7).

Story 10, rated "(2) Moderate degree of internal control" illustrates what first appears to be an attitude of external control.

> Story 10: (Street). This woman is walking down the street thinking of her future and what life holds in store for her. She's a person that has many ambitions and wants to be a children's nurse. Probably she wants to be a nurse because she's always loved children and hopes some day to have some of her own. Her ambitions don't come true; she feels that she has missed a great deal in life. She doesn't become a children's nurse and doesn't have any children of her own. She quit school in high school. The outcome isn't a very happy one, but I think the majority of it all was her own doing; if she had wanted the education enough she would have gotten it on her own, worked on it.

Although the outcome is an unfavorable one, with unfulfilled ambitions, the

main character accepts responsibility for the events leading to her unhappiness and attributes much of her present situation to her own lack of motivation. The story earns a rating of internal control although it is of limited intensity.

Story 11 is rated "(2) Moderate degree of internal control" because of the central figure's competent performance during a hunting trip.

> Story 11: (Forest). This hunter has been out hunting, but hadn't seen anything. It was about half an hour before sundown. Suddenly out onto the road stepped a 14-point white-tailed buck. Just as the deer was about to disappear into the trees he shot it and it dropped dead right in its tracks. He dressed the animal out right on the spot, loaded it into the trunk of his car, finished his journey home, feeling very happy with himself. He sent the measurements of his deer's horns to the Boone and Crockett Club and found that they were the second largest on record.

The following story is also rated "(2) Moderate degree of internal control." After two years, during which she thought of her child's activities as unrelated to her, a mother is finally able to accept her responsibilities as a parent.

> Story 12: (Nursery). This little boy is 2 or 3 years old and he's been with her that long. When he was first born she thought it was a miracle. And as he was growing up everything he did was in the form of a miracle. She could see he had a personality of his own. And she grew quite affectionate toward him. And she grew more affectionate as he grew. And one day standing over his crib she began to realize that he was a part of her, that she had responsibilities toward him, that he was, in fact, her son. And she accepted this fact. And it was the beginning of love that continued after this.

All stories evaluated as showing the subject's belief in internal control reflect some competency and adequacy on the part of the principal character. Future-oriented drives to succeed through self-determined actions are expressed in the MAPS stories of internally motivated subjects. Effective coping with problems come through self-initiated and constructive measures taken by the central figure.

111 - Criteria for "Neutral" Scoring of Belief in Control of Reinforcement

When elements of both internally and externally controlled behavior are

apparent, the story is rated "(3) Neutral." Dies gives an example of a neutral rating where the character makes an attempt at carrying through a self-initiated project and then finds his drive petering out. The following MAPS story provides a similar illustration.

> Story 13: (Shanty). This fellow robbed a bank before arriving there. He doesn't know what to do; he has a gun and is thinking he should shoot someone. Doesn't like the surroundings, is looking for someone to shoot. Eventually puts gun down and walk away.

The central figure has just completed the self-initiated project of robbing a bank, is considering another plan (shooting someone), and then doesn't follow through; instead he puts the gun down and walks away.

> Story 14: (Street). On a street corner is a girl and these two boys. There's a school dance going on. These two boys are competing for her hand. They get into a fight. One gets punched in the nose. He starts crying and runs home to his mother. She consoles him but Gramps tells him to go back and stick up for his rights. The kid goes back and punches the other in the nose.

The boy is subjected to two opposite points of view. Mother consoles him when external forces overwhelm him, while Gramps urges him toward more internally-oriented behavior. He does eventually stand up for his rights, but only when he is told to do so. For this reason the story is rated "(3) Neutral."

> Story 15: (Forest). A little boy took his dog for a walk in the forest. After walking a little way, he came upon a crippled old lady. He wanted to know if he could help this lady so he started asking her questions about where she came from and who she was and what she was doing in the forest. This lady couldn't understand what the boy was asking or what he was saying. The little boy wanted to help this lady and he didn't know what to do so he went home and got his father. When they came back the lady was gone and to this day they do not know what happened to this lady or who she was or where she came from or anything about her.

When the little boy finds the crippled old lady and assumes responsibility for helping her, an attitude of internal control is expressed. However, he fails to make her understand him, seeks help from his father, and in the end she disappears, leaving him wondering about her. The story ends with an attitude of external

control. Considering the total story, a "(3) Neutral" scoring is given.

IV - Criteria for "Irrelevant" Scoring of Belief in Control of Reinforcement

Stories having minimal relevance for an evaluation of internal-external control are given the rating "(0) Irrelevant."

> An irrelevant (0) rating should be relatively rare, for in most instances there will be some indications of a subject's orientation with regard to experienced personal control. Even if there is only minimal involvement with the story, it is probably best to rate the story as "(3) Neutral" rather than irrelevant. Logically, this seems most appropriate (Dies, 1968, Manual, p. 13).

Irrelevant narratives are often nothing more than picture descriptions, with no emotions, attitudes, or reactions illustrated.

> Story 16: (Nursery). That is Jesus King. There are three characters in this story; one is the present, one is the future. This is just a woman, just like you see her here. She's in her box, in her death. This is Jesus and this one is Santa Claus, in university. This could have to do with future generations, boys and girls - the future to come.

Although the story teller makes an attempt to include the past, present and future in the narrative, they are used only in a descriptive and symbolic sense, without any real reference to internal-external control. The story is rated "(0) Irrelevant." Story 17 is also scored "(0) Irrelevant" because of its descriptiveness.

> Story 17: (Blank). The hay is on the mountain and the dog is under the mountain and the cloud is floating in the sky. Peace.

A story which at first appears irrelevant may upon closer inspection show some relevance for an evaluation of internal-external control. Dies (1968) advises that even when there is only minimal involvement with the story, it is probably best to rate the story as neutral rather than irrelevant. The following story is rated "(3) Neutral."

> Story 18: (Doorway). When I was young I was like most kids. I felt free and happy and didn't have a care in the world. I grew up with people just like me. Most of us didn't have parents of our own and brothers and sisters of our own, but yet we lived as a family. There was

> togetherness in our house and there was separation, but we always ended up together. When the time came to separate I knew there would be no more togetherness, not in body but in heart. Today I am separated from them but I am together with people like them. Life is a one-way street - it goes only ahead and a person must always look ahead, for if he looks back he will have an accident. I am going down that one-way street, but I looked back too many times, and practically ruined my own future. A heart is a heart, and a mind is a mind. These two should never be mixed, but I mixed them. I hurt myself to live for myself, but all I am succeeding in doing is dying for myself. I don't feel lonely or separated from anybody, just from myself. I know there's a future for me, but I am scared to continue on that one-way street, for I know I will look back again.

Marked ambivalence regarding internal-external control is expressed in Story 18. On the one hand the central figure accepts responsibility for the way he is living and is aware that he has brought about much of his own difficulty; but he also feels helpless in any attempts to change his life, or to prevent himself from "looking back."

V - Identification of the Central Character

> Although it is expected that subjects will identify with characters of their own sex, this occasionally does not hold true (Dies, 1968, Manual, p. 8).

The next narrative was offered by a male subject who chose to identify with a small boy and girl. The story is rated "(5) Considerable degree of external control."

> Story 19: (Raft). This boy and girl are out rafting on the ocean. They slipped away from shore and went into the ocean. The girl is playing and having a great time, and the boy is crying because the raft might tip over and they might drown. They'll probably drown.

In Story 20 a female subject identifies with a male opera singer. The rating is "(1) Considerable degree of internal control."

> Story 20: (Stage). He's singing and he's looking at the audience while he sings. He feels kind of shy being up there in front of the audience. He's a good singer, an

> opera singer, and he likes it. He's giving a concert and it turns out good.

Several suggestions from Rotter (1946) are outlined by Dies as being helpful in determining identification figures.

> The following should be considered in evaluating identification, and consequently, in assessing internal-external control. There are, of course, exceptions to each of these points.
>
> (a) The subject is likely to identify with a character of the same sex, either one of his own age or a previous age.
>
> (b) The subject is likely to identify with the central character of the story, that is, the one around whom the story revolves, whose feelings are being expressed, whose behavior is being described, the one is likely to be described first and figures in the ending.
>
> (c) The subject is likely to identify with a character who does not have behavior which is socially unacceptable in the subject's eyes. For example, he is unlikely to identify with a figure who is mean, cruel, perverted, stupid, or unjust. However, he may readily identify with someone who is frustrated, sick, sad, a victim of injustice, etc.
>
> (d) The subject is more likely to be identifying with one of the characters when he gives evidence of emotional involvement in the story he tells (Dies, 1968, Manual, p. 9).

V1 - Outcomes

In most cases, the outcome of the stories is closely related to the internal-external control variable, i.e., internally controlled characters bring about favorable outcomes, while externally controlled main figures are more likely to be involved with unfavorable outcomes. However, this is not always the case.

> A subject who lacks self-determination or fails to accept responsibility for his actions (belief in external control) may fear to face the realities of the situations that he himself has contrived, and, by dealing with them on a fantasy level, may achieve a high proportion of favorable outcomes (Dies, 1968, Manual, p. 10).

> Story 21: (Forest). This is a person who is deformed and ugly. Ever since he was born he was ugly and people wouldn't have anything to do with him so he went into the forest to live by himself. The animals in the forest are his friends. When he dies and goes to heaven where no one cares about his looks he still cares for the animals but he has human friends now.

The problem of deformity and consequent rejection by others is solved in a fantasy of being accepted in heaven where others don't care about his looks. The story is rated "(5) Considerable degree of external control."

> Subjects with great competence (internal control) may report unfavorable outcomes because active coping of their TAT figures does not necessarily bring success, or because the ability of the characters in recognizing some of the unstructured features of the future makes it difficult for them to achieve favorable solutions (Dies, 1968, Manual, p. 10).

Story 10 has already been quoted as an example of internal control with an unfavorable outcome.

V11 - Summary of General Critieria for Rating

The summary is taken from the Dies (1968) manual (pp. 14 - 15) for rating TAT stories.

Rating (5) Considerable degree of external control: A perception of positive and/or negative events as being the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of facts surrounding the principal character. Stories in which the main figure encounters numerous obstacles, hazards, or conflicts in the face of which he typically fails, are interpreted as reflecting a generalized expectancy of undesirable external control. In more positive terms are those stories in which the hero is portrayed as the passive recipient of gratuities or as succeeding largely through the intervention of good fortune. What is important for a rating of external is the relative absence of self-initiated, responsible action or personal mastery. Instead, the central figure is viewed as almost powerless in the face of favorable and/or unfavorable events or as unable to overcome life's dilemmas. There may be some attempts to use fantasy to escape from intolerable situations, but few efforts to solve problems realistically are

shown.

Rating (4) Moderate degree of external control: The features described in the above category appear with less intensity, but the principal character is still regarded as displaying little personal control over events.

Rating (3) Neutral: Aspects of both internal and external control are evident with some self-initiated, productive behavior in the context of a representation of events as determined partly by uncontrollable external forces or agents.

Rating (2) Moderate degree of internal control: A perception of positive and/or negative events as being a consequence of one's own actions and thereby under personal control. The principal figures are seen as coping with problems and conflicts in a competent, self-determined fashion. If the hero should fail in a difficult situation, or make a mistake, he accepts full responsibility for the outcome.

Rating (1) Considerable degree of internal control: The central figures are depicted as highly competent and in control, or at least responsible for, whatever happens to them. The features described in the above category appear with greater clarity.

Rating (0) Irrelevant: The story fails to provide clues for a rating of internal-external control. The subject either cannot produce a story or else the narrative is simply a picture description.

CRITERIA FOR QUALITATIVE SCORING OF BELIEF IN INTERNAL AND EXTERNAL CONTROL OF REINFORCEMENT IN MAPS STORIES

According to Angyal's (1965) holistic theory, neurosis can be either a lack of or an excess of autonomous striving (internality) and either a lack of or an excess of homonomy and/or heteronomy (externality). This state of affairs can be created by the person himself and perpetuated through an unfortunate self-concept. Rogers (1959) and Leeper and Madison (1959) state that such concepts, real or distorted, have a profound effect on the perceptual field of the individual through selective perception.

The subject's perception of interpersonal and person-environment situations may be expressed in his self-created MAPS stories through Counterdependent (Internal), Self-blaming (Internal), Dependent (External), and Other-blaming (External) themes.

1 - Counterdependent Internal Themes

Angyal describes excessive autonomy as rebelliousness and rejection of any influence exercised by others; this orientation represents the individual's wish to be completely independent of others and to accept no help. Such an individual may try to prove himself through repetitive testings or actions designed to reassert his competence and mastery. His orientation may be a reaction against being babied, or a protection against being destroyed as a self-determining individual.

Another example of autonomy would be a more realistic one, described by de Charms (1968) as self-reliance and independence. These individuals have a strong trend toward autonomy and freedom, attack problems with zest, seek uncertainty and change, and like to feel control over the outcome of a task, as well as over their own behavior. Rotter (1966) describes them as having a sense of effectiveness and competence and faith in their own mental and physical powers. They enjoy hard work, overtly strive for achievement, are perceptive and cognitively alert, and count on their plans working out.

Individuals who are either excessively autonomous or realistically

independent could produce MAPS stories, rated as "Counterdependent," in which the central figure

(a) rebels against, overcomes, or rejects malevolent forces which are perceived as threatening to harm him or hinder his progress;

(b) refuses the help of benevolent forces which are perceived as being overprotective toward him;

(c) interacts with benevolent forces which are perceived as helping him without taking away from his individuality; or

(d) successfully pursues his goals or fulfills his potential through active and realistic coping.

In the next story, rated as "Counterdependent," a young girl overcomes polio and makes a successful life for herself.

> Story 22: (Medical). It's a young lady, just starting out in life and she's got a disease. Through hard work, doctor's care and helping herself, and more hard work, she has finally succeeded. She's an office worker, now making good and she's quite happy now with herself and with what she's overcome. She's had polio, or some bad disease like that.

> Story 23: (Closet). The girl was fed up with her mother and so she took all her clothes out of the closet and ran away. The mother had given the girl heck because she was starting to smoke and drink and go out with fellas and the girl never came back. She got along okay, got a job and started to work.

The girl's counterdependency is expressed in Story 23 by overt rebellion against her mother whom she sees as limiting her freedom.

> Story 24: (Camp). These kids have been going to Brownies for a year, learning all the new exciting things, and they've been promised a camping trip for the beginning of July. Here they are at the camp, setting it up and encountering all the trials and tribulations of learning to set it up, and are having fun doing it. There are little pegs for the tents, and you have to know how to spread a tent out when you set it up. It looks like they're doing fine. They're having a lot of fun planning what they're going to do each day. There's lots of activities, fun, games, swimming and hiking.

Active and realistic coping is expressed in the children's camp activities and for this reason the story is rated "Counterdependent."

Stories 8, 9, 11 and 12 are also classed as "Counterdependent."

11 - Self-blaming Internal Themes

Rotter (1966) describes another group of Internals who have a history of failure and tend to blame themselves for their misfortunes. A "Self-blaming" internally oriented individual could produce MAPS stories where the central figure blames himself or takes the responsibility for bringing about situations where

(a) malevolent forces are perceived as threatening to harm him;

(b) he is unable to assert his own needs in the presence of malevolent and/or benevolent forces;

(c) he is unable to take advantage of opportunities presented by benevolent forces;

(d) he is unable to bring about an outcome (favorable or unfavorable in the story; or

(e) he does not successfully pursue goals or fulfill his potential.

The following story indicates the main figure's willingness to take responsibility for sleeping in and thereby missing his breakfast.

> Story 25: (Bedroom). That's me asleep and the lights have already been turned on. I'm terribly, terribly sleepy. The time is about 7:20 a.m. and I have already been awakened, at about 10 to 7, and as I'm lying there I'm thinking, "I'm going to get up right away," but before I know it, I'm back asleep again. The result of the whole thing is that I'll have to go to bed earlier so I won't miss breakfast.
>
> Story 26: (Medical). A man went to see the doctor. He was feeling very ill. The doctor came in and asked him if he had done as he was told on his last visit and the man said, "no." The doctor became very angry after talking with him and he said, after some argument, "You are a lawyer and if a client comes to you and pays you money, then you expect him to come to you and take your advice, don't you? Now, if you can't take my advice, then you may leave and don't come back." He was very angry. The man was very ill, but he didn't take medical advice and so was turned away eventually, even though he was very ill, and needed to see a doctor. He was sorrowful when he went

> away because he was aware that he had brought it on himself, by going his own way.

The story is rated as "Self-blaming" because of the main character being portrayed as seriously neglecting his health and being responsible for going against medical advice. Through his own stubbornness he does not take advantage of opportunities presented by benevolent figures (in this situation, the doctor), and as a result the outcome is unfavorable. Some "Self-blaming" themes may lead to favorable outcomes, as in Story 27, where the central figure accepts responsibility for mistakes.

> Story 27: (Camp). It's about a young fellow that's starting high school. He finishes high school and is trying to think of what career to choose, so he chooses the Army. After a couple of years he's not doing so good, so he's very angry with himself for choosing the wrong career. I'd say he will probably go back to school and then go on to university and will become an engineer. I'd say he'll be happy.

Although the outcome shows a "Counterdependent" trend, the main content of the story focuses on the young man's mistake in career choice and his awareness of the mistake, and for this reason the story is rated "Self-blaming."

Story 10 is also rated as "Self-blaming."

111 - Dependent External Themes

The externally oriented individual is described as being passive in the face of environmental difficulties and powerless and ineffective in everyday living. He either has weak motivation or is an unsuccessful striver. He is unable to control his own destiny, and attributes successes and failures to forces beyond his own control. (Angyal, 1965; Lefcourt, 1966; Rotter, 1966; and de Charms, 1968.)

Bettleheim (1952) refers to individuals in situations of reduced personal efficacy becoming childlike, passive dependent objects with total dependence on an authority. These persons are unable to make decisions and their ability to will is severely impaired. Angyal (1965) sees them as having fear of failure and feelings of incompetence and helplessness. They are reluctant to try in earnest, depend on external forces for survival, are easily influenced by others, and are afraid to assert

themselves for fear of hurting others.

Dependent externally oriented subjects may produce "Dependent" MAPS themes where the central figure

(a) is ineffective in coping with malevolent forces which are perceived as threatening to harm him;

(b) is unable to assert his own needs in the presence of malevolent and/or benevolent forces;

(c) is the passive recipient of benevolent forces;

(d) is unable to decide whether the forces are malevolent or benevolent and may perceive them as indifferent; or

(e) is unable to bring about the outcome (favorable or unfavorable) in the story.

The old lady in Story 28 is unable to cope with her present circumstances and waits for someone to come and change them for her. The story is rated as "Dependent."

> Story 28: (Shanty). This old lady is living in this old shanty; it's broken down and it's getting colder and she's covering herself up to keep warm. There had been quite a strong wind that blew her door down and now she's standing there and doesn't know what to do, whether she should go for help or what she should do. She's living close to the highway and she hoped that some passing motorist will stop and see her plight and help her. Somebody sooner or later will come along and help her.

> Story 29: (Street). It's early morning and pouring rain and Sam has been standing on the corner for an hour and a half waiting for the ride that will get him out of the city and to work up north. I'm going to leave him waiting for the ride; that's the outcome.

Because the central figure is left waiting for someone to come and help him, the story is rated "Dependent."

> Story 30: (Raft). A very wealthy man boarded a ship called "Paradise" on his yearly tour around the world. He was a kind man but he had few close friends and no one really knew anything about him. The trip went well for four weeks and this kindly man appeared to be enjoying himself on the voyage. Then one day the water they sailed on became turbulent. The waves got so violent and

> tossed the ship out of the control of the captain's hand. The boat apparently hit some obstacle and splintered to smithereens. The wealthy man was left stranded on a piece of the deck which resembled a raft and the rest of the tourists and voyagers drowned in the salty water. The man was left in the world realizing that perhaps his days were over, but accepting the fact in a courageous way. He managed to devise a fishing lure out of a lapel pin and used thread from his garments for the fishing line. He succeeded in catching a large fish which kept him alive for seven days. He bided his time, meditating on his past life and present. The day came when he was spotted by the pilot of an aircraft, but sadly enough, his help arrived a little too late. The sun was shining bright and the sky was clear, but the water was losing its calm. Suddenly a huge wave appeared out of the blue and washed the Man, with a capital M, overboard, where he sank to the bottom of the sea. The End.

Although there are definite Counterdependent themes in the wealthy man's attempts to survive in adverse circumstances, the overall story is rated "Dependent" because of the final outcome where he is washed overboard and dies.

Stories 2, 3 and 4 are also rated "Dependent."

IV - Other-blaming External Themes

Another External individual is the one who blames his difficulties and failures on "objective" external forces, invites exploitation by others (Angyal, 1965) and may even develop feelings of persecution (Hersch & Scheibe, 1967). Individuals who are hostile, other-blaming, antisocial, depressed, suspicious or paranoid could conceivably express much hostility and blaming tendencies toward the environment, seeing it as threatening and dangerous and themselves as unable to do anything about it. The blaming tendency is a "pseudo-active" one, covering a more basic passivity and ineffectiveness.

These subjects could produce MAPS stories where the central figure blames or places responsibility on

(a) malevolent forces which are perceived as bringing about his difficulties and failures;

(b) benevolent forces which are perceived as making him succumb to

overprotection.

"Other-blaming" external stories may also reflect a realistic orientation. The individual may be in a highly competitive situation where the actions of others may have great relevance for the success of his own efforts. His success or failure then depends on the actions of others (malevolent and/or benevolent forces).

> Story 31: (Raft). There was a civil war on earth between the "faceful" people and the "faceless" people. The faceful people had won. Now this is the story of one family out of the millions of faceless families. This particular family, called "Average 261," has been exiled with no food or water, on a raft in some ocean on earth. They last for 3 days with only their faceless faces to keep them company. Tomorrow they will drown and die.

The "faceless" people are the victims of malevolent forces who are responsible for carrying out a plan to kill them. For this reason the story is rated "other-blaming."

In Story 5, quoted earlier, a man places the blame for his present indecisiveness on people in the past who have exposed him to contradictory points of view and have pressured him to believe them.

> Story 32: (Schoolroom). This man is a teacher who has been hired, placed in a position in teaching that he was not totally satisfied with when he took the position, as he was not satisfied with the curriculum as laid down by his supervisory staff, as to what he was to teach. It does not conform to what he believes to be a primary moral standard that should be adhered to in respect to the present day level of society. He feels that too much disregard of the basics and proper principles will only enhance further confusion that so many of the young feel. He therefore digresses from the curriculum as set down, whenever he feels it's safe to try and give his pupils a cross-reference in their interpretation of what is being taught. However, educational institutions being such as they are, the word reaches the ears of the principal who summarily reprimands him in this matter and advises him his employment is at stake if he should ignore this warning. He subsequently is discharged, as he does ignore it. He believes he will eventually find a teaching position that will offer him the opportunity to teach as he believes is the right manner.

In this story the teacher's moral principles are questioned and he is discharged by those in authority who will not allow him to teach in his own way. The central figure is seen as being right in his views, and blame is placed on the supervisory staff for the unfavorable outcome.

In the following story the husband's death is blamed on two separate persons; the wife blames the driver of the car which hit her husband, while the doctor blames the wife for not bringing her husband to the hospital.

> Story 33: (Medical). This man and his wife were driving along and another car swerved and hit them. He fell out and got hit by an oncoming car. The wife got him to the nearest doctor's office. He was still alive when they got there. The doctor decided there was nothing he could do for him and that he would die. The wife was upset and started to scream about why did he have to die instead of the drunkard who had run him down. The doctor tried to calm her down and told her she should have taken him to the hospital instead. They might have been able to save him there, with all their better facilities. He told her he might be alive today if he had been taken to the hospital.

V - Neutral Themes in Neutral Stories

Stories 13, 14 and 15, rated as "neutral" for belief in control of reinforcement, each have both Dependent and Counterdependent themes, with no one theme predominating. They are for this reason rated "Neutral" as far as themes are concerned. All neutral stories will be rated "Neutral" for themes as well.

VI - Summary of General Criteria for Rating MAPS Themes

Counterdependent Internal Themes: The central figure (a) rebels against, overcomes, or rejects malevolent forces which are perceived as threatening to harm him or hinder his progress; (b) refuses the help of benevolent forces which are perceived as being overprotective toward him; (c) interacts with benevolent forces which are perceived as helping him without taking away from his individuality; or (d) successfully pursues his goals or fulfills his potential through active and realistic coping.

Self-blaming Internal Themes: The central figure blames himself or takes the

responsibility for bringing about situations where (a) malevolent forces are perceived as threatening to harm him; (b) he is unable to assert his own needs in the presence of malevolent and/or benevolent forces; (c) he is unable to take advantage of opportunities presented by benevolent forces; (d) he is unable to bring about an outcome (favorable or unfavorable) in the story; or (e) he does not successfully pursue goals or fulfill his potential.

Dependent External Themes: The central figure (a) is ineffective in coping with malevolent forces which are perceived as threatening to harm him; (b) is unable to assert his own needs in the presence of malevolent and/or benevolent forces; (c) is the passive recipient of benevolent forces; (d) is unable to decide whether the forces are malevolent or benevolent and may perceive them as indifferent; or (e) is unable to bring about an outcome (favorable or unfavorable) in the story.

Other-blaming External Themes: The central figure blames or places responsibility on (a) malevolent forces which are perceived as bringing about his difficulties and failures; or (b) benevolent forces which are perceived as making him succumb to overprotection.

APPENDIX G

Table 1

Mean, Median, Variance, Standard Deviation and Actual Score Range for Subjects Assigned Within Each I-E Group in Accordance With the Expected Score Range Associated With Each Group

Assigned Group Membership	Classification Score Range	N	Descriptive Statistic				
			Mean	Median	Vari.	Stand. Devia.	Actual Score Range
External	16.00 - 23.00	40	14.25	14.00	4.04	2.01	12.00 - 19.00
Middle	8.00 - 15.00	40	9.57	10.00	0.35	0.59	8.00 - 11.00
Internal	0.00 - 7.00	40	5.05	5.00	2.10	1.45	1.00 - 7.00
Total		120					

Table 2

Mean, Median, Variance, Standard Deviation and Actual Score Range for Subjects Assigned Within Each MAPS Group in Accordance With the Expected Score Range Associated With Each Group

Assigned Group Membership	Classification Score Range	N	Descriptive Statistic				
			Mean	Median	Vari.	Stand. Devia.	Actual Score Range
MAPS External	30.00 - 40.00	40	28.80	29.81	6.61	2.57	28.00 - 35.00
MAPS Middle	20.00 - 29.00	40	25.80	26.23	5.76	2.40	24.00 - 28.00
MAPS Internal	0.00 - 20.00	40	21.38	21.64	10.24	3.20	15.00 - 24.00
Total		120					

Table 3

Summary of the Analysis of Variance of MAPS Counterdependent Theme Scores in I-E External, Middle and Internal Groups

Source	SS	MS	df	F
Groups	.27	132.61	2	111.50***
Error	.14	1.19	117	

*** $p < .001$

Table 4

Summary of the Analysis of Variance of MAPS Dependent Theme Scores in I-E External, Middle and Internal Groups

Source	SS	MS	df	F
Groups	.18	66.41	2	79.47***
Error	.98	.84	117	

*** $p < .001$

Table 5

Summary of Analyses of Variance of 15 IBI Variables in External, Middle and Internal Groups

Variable	Source	SS	df	MS	F	P
Dominance	Between groups	0.11	2	0.56	0.19	0.83
	Within groups	0.35	117	0.30		
Competition	Between groups	0.35	2	0.18	0.06	0.94
	Within groups	0.35	117	0.30		
Aggression	Between groups	0.64	2	0.32	0.07	0.93
	Within groups	0.55	117	0.47		
Mistrust	Between groups	0.11	2	0.56	0.13	0.88
	Within groups	0.50	117	0.43		
Detachment	Between groups	0.64	2	0.32	0.66	0.52
	Within groups	0.57	117	0.49		
Inhibition	Between groups	0.71	2	0.35	0.16	0.85
	Within groups	0.25	117	0.22		
Submissiveness	Between groups	0.13	2	0.67	1.76	0.18
	Within groups	0.45	117	0.38		
Succorance	Between groups	0.56	2	0.28	0.62	0.54
	Within groups	0.53	117	0.45		
Abasement	Between groups	0.48	2	0.24	0.87	0.42
	Within groups	0.32	117	0.28		
Deference	Between groups	0.34	2	0.17	0.81	0.45
	Within groups	0.25	117	0.21		
Agreeableness	Between groups	0.32	2	0.16	0.08	0.93
	Within groups	0.25	117	0.21		
Nurturance	Between groups	0.20	2	0.10	0.33	0.72
	Within groups	0.36	117	0.31		
Affection	Between groups	0.22	2	0.11	0.79	0.46
	Within groups	0.16	117	0.14		
Sociability	Between groups	0.32	2	0.16	0.34	0.72
	Within groups	0.56	117	0.48		
Inhibition	Between groups	0.16	2	0.78	0.25	0.78
	Within groups	0.37	117	0.32		

TABLE 6

Variable Loadings on the Two Discriminant Functions Determined From the Raw Scores of the IBI Variables in External, Middle and Internal Groups

IBI Variable	Discriminant Function 1	2
Dominance	0.13	-0.35
Competition	-0.07	0.02
Aggression	-0.10	0.22
Mistrust	0.01	-0.03
Detachment	-0.22	0.18
Inhibition	0.61	-0.30
Submissiveness	-0.15	0.35
Succorance	-0.21	-0.11
Abasement	-0.09	-0.26
Deference	-0.21	0.28
Agreeableness	-0.15	-0.41
Nurturance	-0.32	0.01
Affection	0.46	0.42
Sociability	0.28	0.27
Exhibition	-0.16	-0.11

TABLE 7

Discriminant Score Means of External, Middle and Internal Groups Evaluated Over Their IBI Scores

Group	Vector 1	Vector 2
External	- 9.16	6.38
Middle	- 11.72	7.07
Internal	- 11.48	5.45

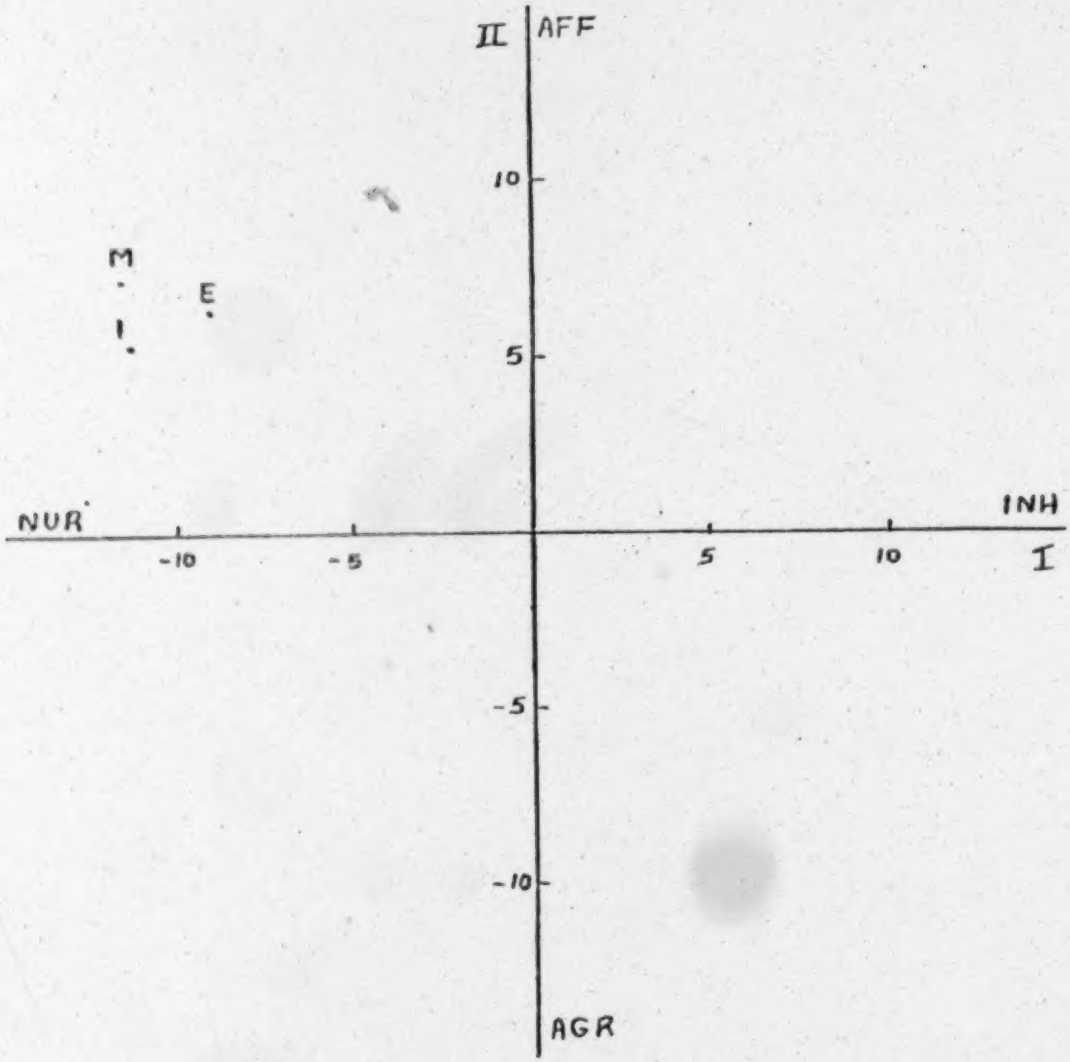


Figure 1. Centroids of Ss in I-E External, Middle and Internal groups on the first and second discriminant functions, evaluated over their IBI scores.

Table 8

Summary of Analyses of Variance of 15 IBI Variables in External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor Groups

Variable	Source	SS	df	MS	F	P
Dominance	Between groups	0.40	3	0.13	0.49	0.69
	Within groups	0.20	76	0.27		
Competition	Between groups	0.18	3	0.61	0.21	0.89
	Within groups	0.22	76	0.29		
Aggression	Between groups	0.16	3	0.52	1.26	0.30
	Within groups	0.31	76	0.41		
Mistrust	Between groups	0.61	3	0.20	0.47	0.71
	Within groups	0.33	76	0.43		
Detachment	Between groups	0.11	3	0.35	0.73	0.54
	Within groups	0.37	76	0.48		
Inhibition	Between groups	0.28	3	0.94	0.48	0.70
	Within groups	0.15	76	0.20		
Submissiveness	Between groups	0.24	3	0.78	0.19	0.90
	Within groups	0.31	76	0.41		
Succorance	Between groups	0.66	3	0.22	0.43	0.73
	Within groups	0.39	76	0.51		
Abasement	Between groups	0.69	3	0.23	0.83	0.48
	Within groups	0.21	76	0.28		
Deference	Between groups	0.49	3	0.16	0.76	0.52
	Within groups	0.16	76	0.22		
Agreeableness	Between groups	0.16	3	0.52	2.55	0.06*
	Within groups	0.15	76	0.20		
Nurturance	Between groups	0.27	3	0.91	3.04	0.03**
	Within groups	0.23	76	0.30		
Affection	Between groups	0.83	3	0.28	2.08	0.11
	Within groups	0.10	76	0.13		
Sociability	Between groups	0.68	3	0.23	0.51	0.68
	Within groups	0.34	76	0.44		
Exhibition	Between groups	0.60	3	0.20	0.70	0.56
	Within groups	0.22	76	0.29		

* $p < .10$

** $p < .05$

TABLE 9

Variable Loadings on Three Discriminant Functions Determined on 181 Variables in External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor Groups

181 Variable	Discriminant Function 1	2	3
Dominance	0.32	0.15	0.20
Competition	- 0.38	- 0.08	- 0.25
Aggression	- 0.26	- 0.07	- 0.41
Mistrust	0.12	0.02	0.18
Detachment	0.24	- 0.20	0.23
Inhibition	- 0.10	0.53	- 0.06
Submissiveness	- 0.11	0.06	- 0.24
Succorance	- 0.07	- 0.18	0.01
Abasement	0.11	- 0.23	0.14
Deference	0.17	- 0.14	- 0.11
Agreeableness	- 0.08	- 0.39	- 0.26
Nurturance	- 0.49	- 0.05	0.12
Affection	- 0.22	0.54	0.63
Sociability	0.50	0.20	- 0.17
Exhibition	- 0.09	- 0.23	0.23

TABLE 10

Discriminant Score Means of External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor Groups Evaluated Over Their IBI Scores

	Vector 1		Vector 2		Vector 3	
	+	-	+	-	+	-
Group	SOC	NUR	AFF INH	AGR	AFF	AGG
External Sensitizer	- 4.39		- 5.18		- 0.54	
External Repressor	- 2.69		- 5.12		2.11	
Internal Sensitizer	- 5.62		- 7.03		1.59	
Internal Repressor	- 2.19		- 7.56		0.36	

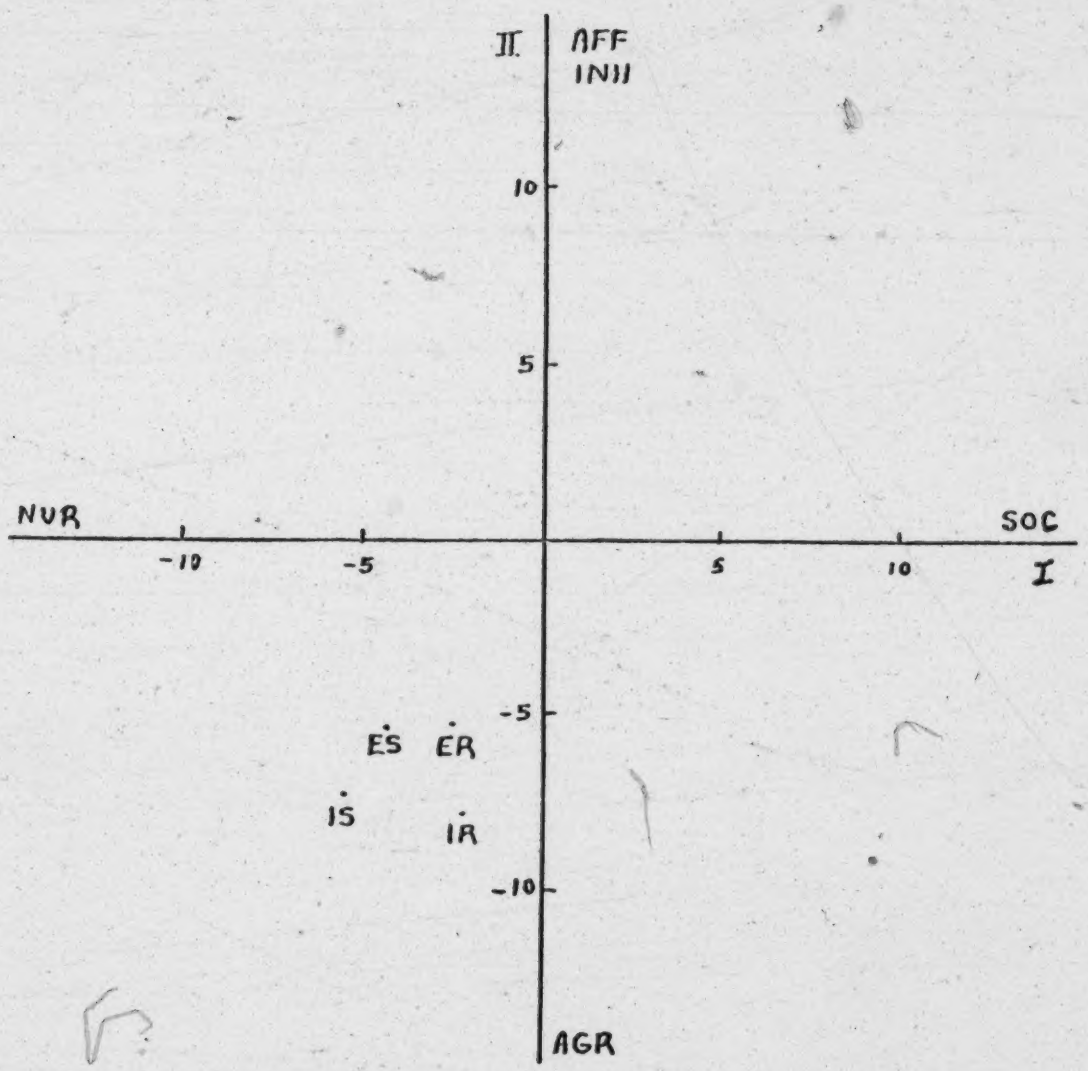


Figure 2. Centroids of Ss in I-E External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups on the first and second discriminant functions, evaluated over their IBI scores.

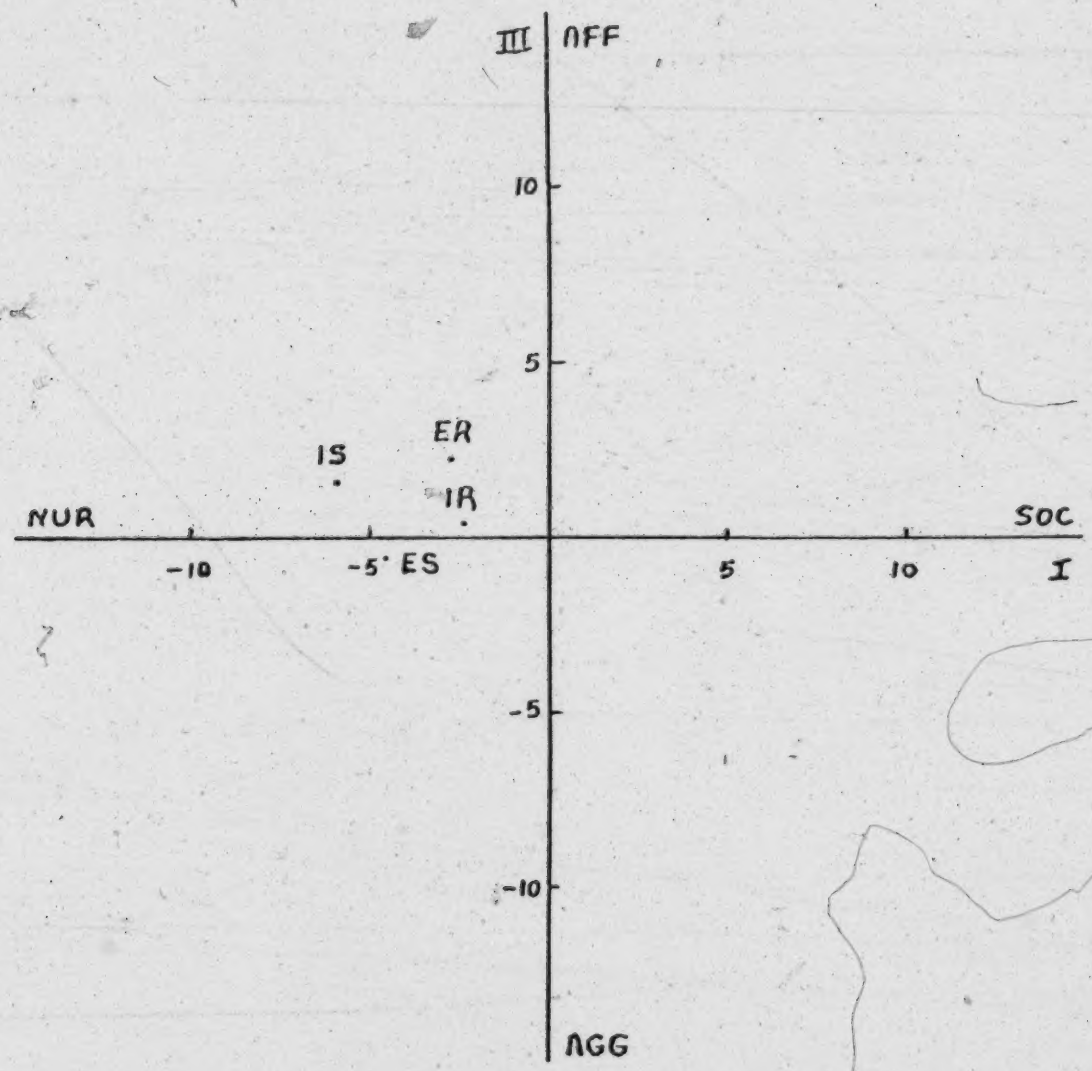


Figure 3. Centroids of Ss in I-E External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor groups on the first and third discriminant functions, evaluated over their IBI scores.

TABLE 11

Summary of Analyses of Variance of 15 IBI Variables in External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups

Variable	Source	SS	df	MS	F	P
Dominance	Between groups	0.49	5	0.99	0.33	0.90
	Within groups	0.34	114	0.30		
Competition	Between groups	0.21	5	0.43	0.14	0.98
	Within groups	0.34	114	0.30		
Aggression	Between groups	0.23	5	0.45	0.98	0.43
	Within groups	0.53	114	0.46		
Mistrust	Between group	0.70	5	0.14	0.32	0.90
	Within groups	0.49	114	0.43		
Detachment	Between groups	0.15	5	0.31	0.63	0.68
	Within groups	0.56	114	0.49		
Inhibition	Between groups	0.52	5	0.10	0.48	0.79
	Within groups	0.25	114	0.22		
Submissiveness	Between groups	0.25	5	0.50	1.30	0.27
	Within groups	0.44	114	0.38		
Succorance	Between groups	0.10	5	0.21	0.45	0.81
	Within groups	0.52	114	0.46		
Abasement	Between groups	0.78	5	0.16	0.55	0.74
	Within groups	0.32	114	0.28		
Deference	Between groups	0.85	5	0.17	0.80	0.55
	Within groups	0.24	114	0.21		
Agreeableness	Between groups	0.16	5	0.31	1.53	0.19
	Within groups	0.23	114	0.20		
Nurturance	Between groups	0.29	5	0.58	1.98	0.09*
	Within groups	0.34	114	0.30		
Affection	Between groups	0.84	5	0.17	1.22	0.30
	Within groups	0.16	114	0.14		
Sociability	Between groups	0.93	5	0.19	0.39	0.86
	Within groups	0.55	114	0.48		
Exhibition	Between groups	0.75	5	0.15	0.47	0.80
	Within groups	0.36	114	0.32		

* $p < .10$

TABLE 12

Variable Loadings on Five Discriminant Functions Determined on IBI Variables in External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups

	Discriminant Function				
IBI Variable	1	2	3	4	5
Dominance	0.15	- 0.00	- 0.24	0.07	- 0.67
Competition	- 0.20	0.11	0.16	0.06	0.04
Aggression	- 0.06	- 0.06	0.38	0.10	0.33
Mistrust	- 0.06	0.06	- 0.12	- 0.04	- 0.04
Detachment	- 0.01	- 0.33	- 0.29	- 0.11	0.25
Inhibition	0.35	0.56	0.04	- 0.01	- 0.38
Submissiveness	- 0.18	- 0.04	0.20	0.56	- 0.01
Succorance	- 0.17	- 0.11	0.00	- 0.18	0.03
Abasement	0.07	- 0.21	- 0.07	- 0.39	- 0.02
Deference	- 0.00	- 0.34	0.09	0.41	- 0.02
Agreeableness	- 0.14	- 0.03	0.49	- 0.49	0.07
Nurturance	- 0.61	0.16	- 0.14	- 0.02	0.05
Affection	0.10	0.58	- 0.60	0.09	0.41
Sociability	0.55	- 0.15	0.02	0.13	0.22
Exhibition	- 0.19	- 0.04	- 0.04	- 0.19	0.04

TABLE 13

Discriminant Score Means of External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups Evaluated Over Their IBI Scores

	Vector				
Group	1	2	3	4	5
External Sensitizer	- 10.44	- 2.74	1.21	2.21	7.61
External Repressor	- 9.83	- 3.44	- 1.49	1.63	7.69
Middle Sensitizer	- 11.68	- 5.12	0.16	1.54	8.72
Middle Repressor	- 12.77	- 4.57	- 0.50	3.24	7.45
Internal Sensitizer	- 13.54	- 3.20	- 0.17	0.80	7.41
Internal Repressor	- 10.69	- 5.90	0.30	1.32	6.96

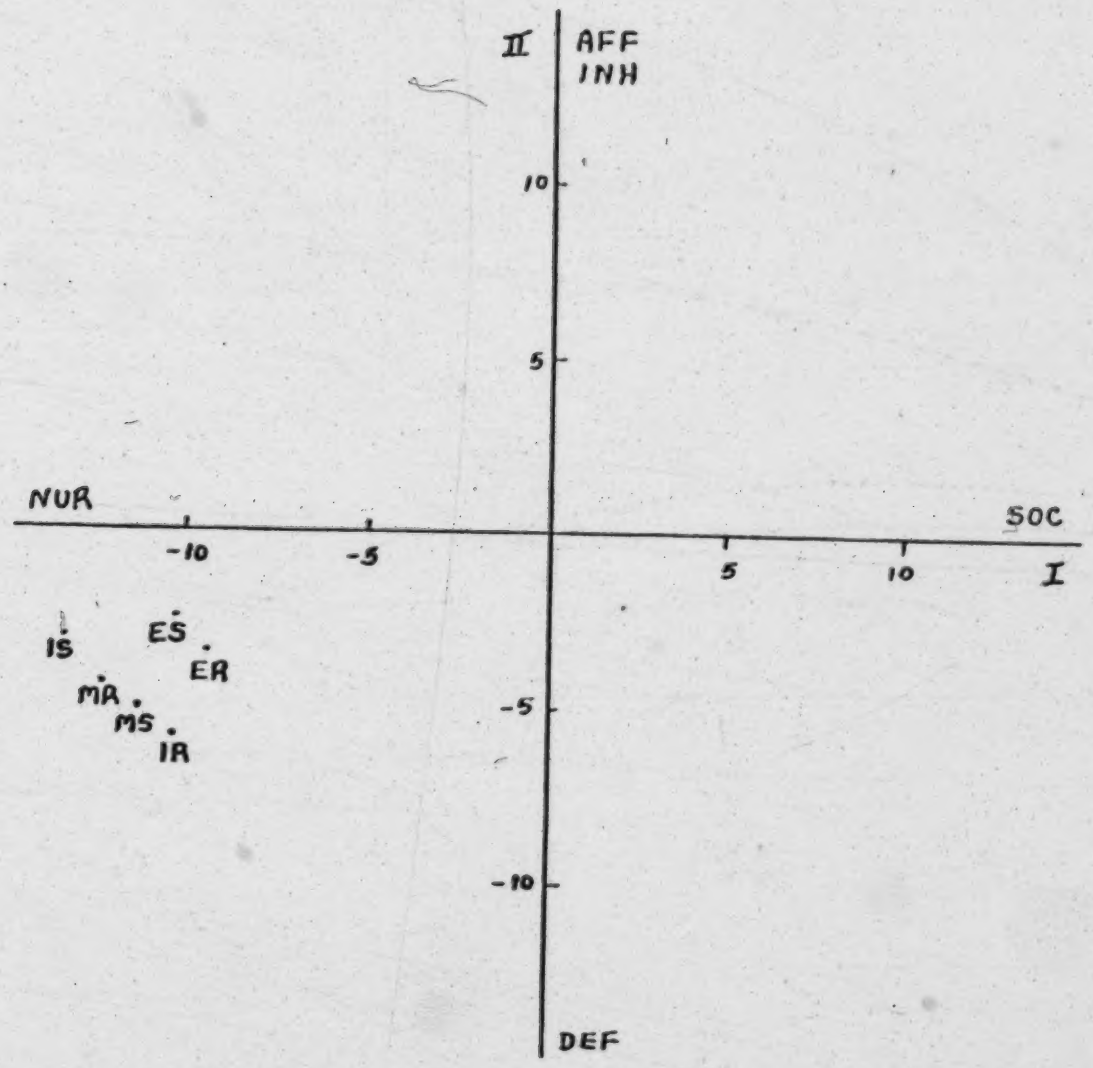


Figure 4. Centroids of Ss in I-E External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor groups on the first and second discriminant functions, evaluated over their IBI scores.

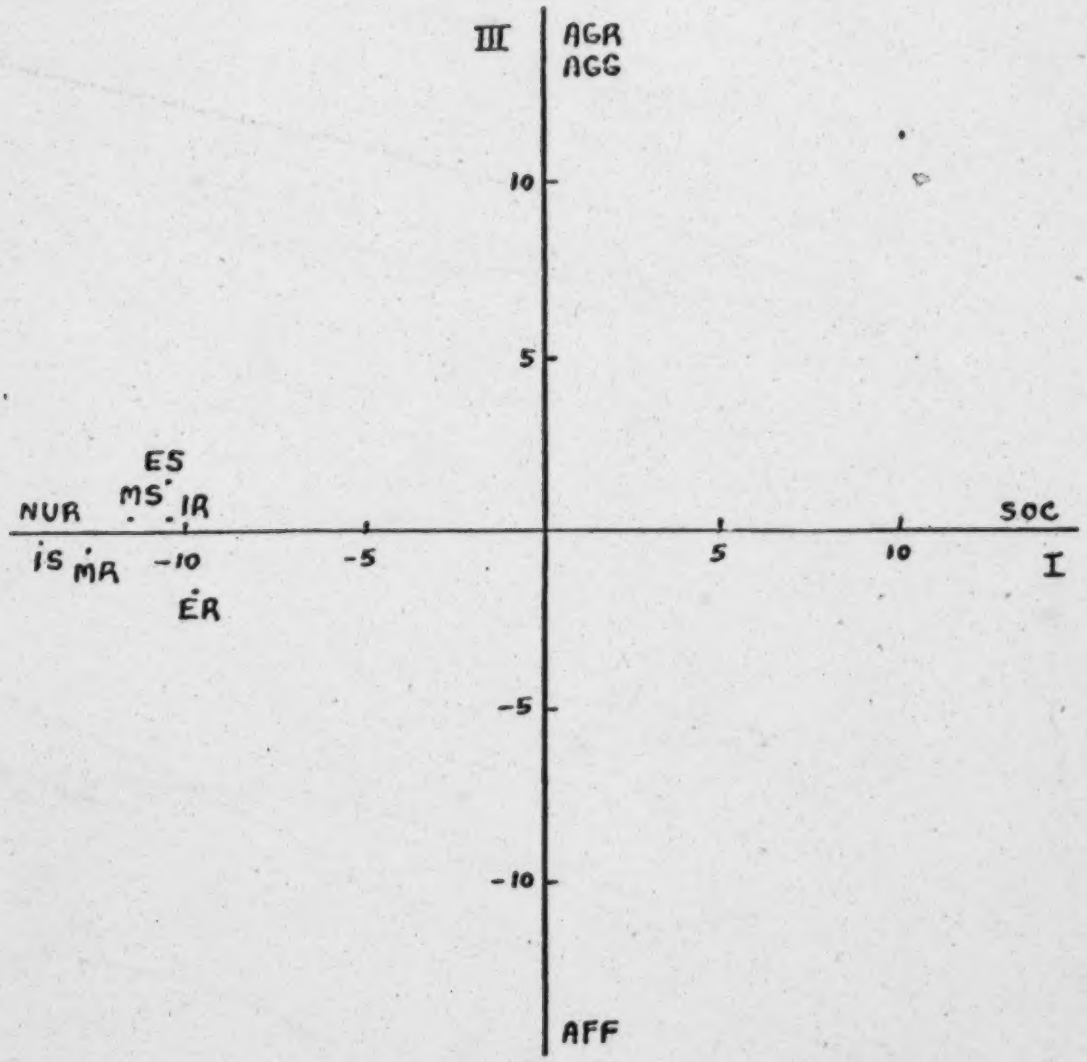


Figure 5. Centroids of Ss in I-E External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor groups on the first and third discriminant functions, evaluated over the 181 scores.

Table 14

Summary of Analyses of Variance of 15 IBI Variables in MAPS External Sensitizer, External Repressor, Internal Sensitizer and Internal Repressor Groups

Variable	Source	SS	df	MS	F	P
Dominance	Between groups	0.15	3	0.50	1.98	0.12
	Within groups	0.19	76	0.26		
Competition	Between groups	0.41	3	0.14	0.52	0.67
	Within groups	0.20	76	0.27		
Aggression	Between groups	0.17	3	0.56	1.30	0.28
	Within groups	0.33	76	0.43		
Mistrust	Between groups	0.26	3	0.86	0.21	0.89
	Within groups	0.31	76	0.41		
Detachment	Between groups	0.39	3	0.13	2.95	0.04**
	Within groups	0.34	76	0.44		
Inhibition	Between groups	0.21	3	0.69	3.52	0.02**
	Within groups	0.15	76	0.20		
Submissiveness	Between groups	0.12	3	0.41	0.99	0.40
	Within groups	0.31	76	0.41		
Succorance	Between groups	0.10	3	0.34	0.64	0.59
	Within groups	0.40	76	0.52		
Abasement	Between groups	0.10	3	0.34	1.14	0.34
	Within groups	0.23	76	0.30		
Deference	Between groups	0.35	3	0.12	0.51	0.68
	Within groups	0.17	76	0.23		
Agreeableness	Between groups	0.14	3	0.46	2.29	0.09*
	Within groups	0.15	76	0.20		
Nurturance	Between groups	0.11	3	0.37	1.17	0.33
	Within groups	0.24	76	0.32		
Affection	Between groups	0.55	3	0.18	1.37	0.26
	Within groups	0.10	76	0.13		
Sociability	Between groups	0.36	3	0.12	2.97	0.04**
	Within groups	0.31	76	0.41		
Exhibition	Between groups	0.19	3	0.62	2.35	0.08*
	Within groups	0.20	76	0.26		

* $p < .10$
** $p < .05$

Table 15

Summary of Analyses of Variance of 15 IBI Variables in MAPS External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups

Variable	Source	SS	df	MS	F	P
Dominance	Between groups	0.20	5	0.40	1.39	0.23
	Within groups	0.33	114	0.29		
Competition	Between groups	0.68	5	0.14	0.46	0.81
	Within groups	0.34	114	0.30		
Aggression	Between groups	0.29	5	0.57	1.25	0.29
	Within groups	0.52	114	0.46		
Mistrust	Between groups	0.92	5	0.18	0.43	0.83
	Within groups	0.49	114	0.43		
Detachment	Between groups	0.39	5	0.78	1.65	0.15
	Within groups	0.54	114	0.47		
Inhibition	Between groups	0.20	5	0.40	1.94	0.09*
	Within groups	0.24	114	0.21		
Submissiveness	Between groups	0.19	5	0.38	0.98	0.44
	Within groups	0.44	114	0.39		
Succorance	Between groups	0.13	5	0.27	0.59	0.71
	Within groups	0.52	114	0.46		
Abasement	Between groups	0.12	5	0.24	0.86	0.51
	Within groups	0.32	114	0.28		
Deference	Between groups	0.57	5	0.12	0.53	0.75
	Within groups	0.25	114	0.22		
Agreeableness	Between groups	0.20	5	0.41	2.05	0.08*
	Within groups	0.23	114	0.20		
Nurturance	Between groups	0.17	5	0.34	1.09	0.37
	Within groups	0.35	114	0.31		
Affection	Between groups	0.74	5	0.15	1.08	0.38
	Within groups	0.16	114	0.14		
Sociability	Between groups	0.37	5	0.75	1.64	0.16
	Within groups	0.52	114	0.46		
Exhibition	Between groups	0.18	5	0.36	1.15	0.34
	Within groups	0.35	114	0.31		

* $p < .10$

TABLE 16

Variable Loadings on Five Discriminant Functions Determined on IBI Variables in MAPS External Sensitizer, External Repressor, Middle Sensitizer; Middle Repressor, Internal Sensitizer and Internal Repressor Groups

IBI Variable	Discriminant Function 1	2	3	4	5
Dominance	- 0.51	- 0.07	0.42	- 0.26	- 0.18
Competition	0.19	- 0.07	- 0.28	0.33	0.14
Aggression	0.05	0.10	- 0.43	0.13	0.02
Mistrust	- 0.00	- 0.02	0.06	0.06	- 0.26
Detachment	0.10	- 0.04	0.35	0.09	0.34
Inhibition	0.34	0.23	0.28	- 0.55	- 0.48
Submissiveness	- 0.30	- 0.09	- 0.23	0.04	0.08
Succorance	0.02	- 0.14	- 0.06	- 0.14	0.19
Abasement	- 0.01	- 0.13	0.07	0.46	0.08
Deference	- 0.25	0.01	0.13	- 0.24	0.10
Agreeableness	0.40	- 0.04	- 0.36	- 0.20	0.26
Nurturance	0.03	- 0.56	- 0.23	- 0.01	- 0.09
Affection	0.49	0.40	0.25	0.25	- 0.34
Sociability	- 0.08	0.59	0.19	0.03	0.40
Exhibition	0.16	- 0.25	0.01	- 0.32	- 0.34

TABLE 17

Discriminant Score Means of MAPS External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor Groups Evaluated Over Their IBI Scores

	Vector				
Group	1	2	3	4	5
MAPS External Sensitizer	7.74	- 3.06	1.21	- 6.95	5.96
MAPS External Repressor	9.96	- 3.62	3.52	- 5.87	5.57
MAPS Middle Sensitizer	9.41	- 5.28	1.21	- 5.00	6.80
MAPS Middle Repressor	7.14	- 4.82	3.12	- 6.70	6.89
MAPS Internal Sensitizer	9.36	- 7.36	2.01	- 7.18	5.94
MAPS Internal Repressor	5.81	- 5.97	2.24	- 5.61	5.58

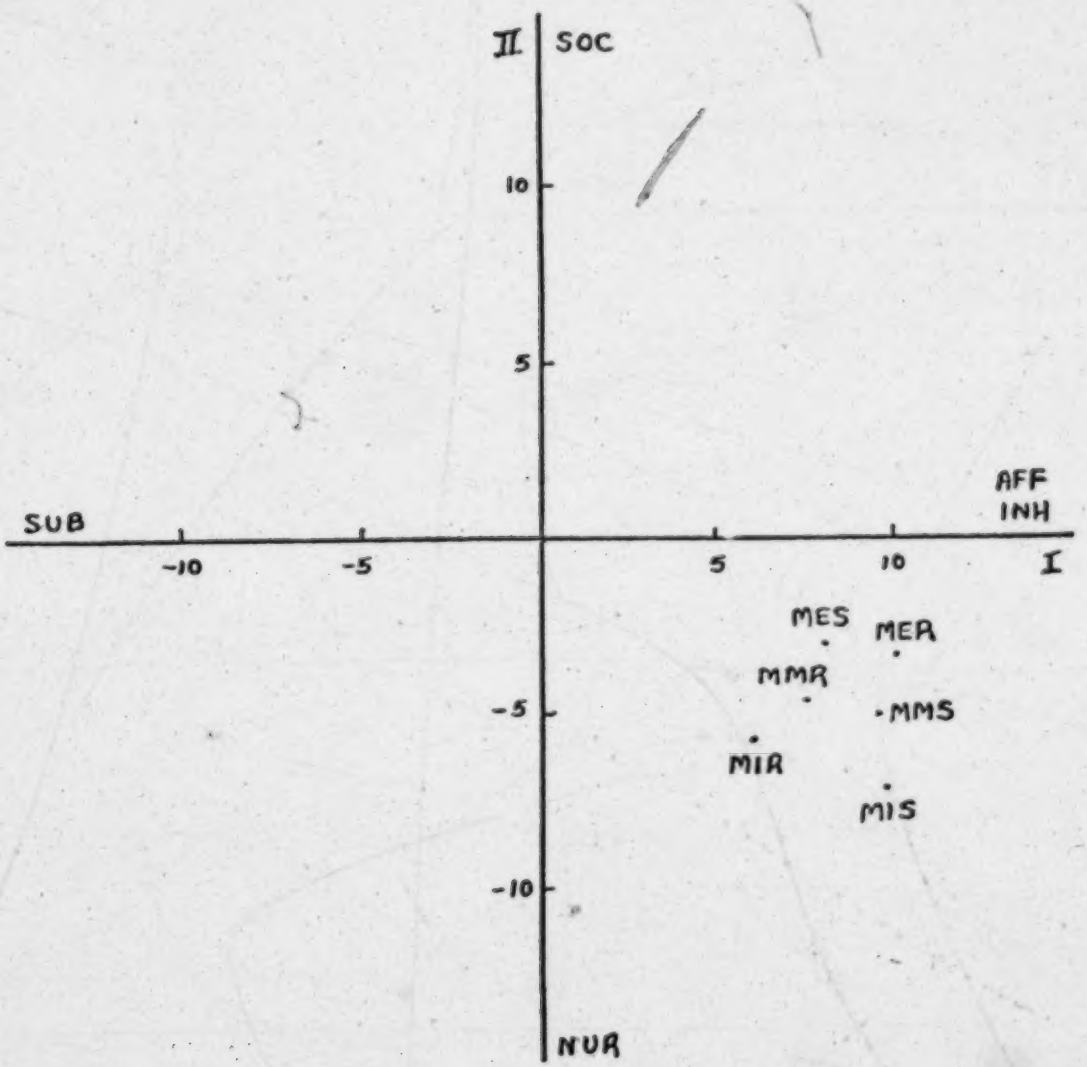


Figure 6. Centroids of Ss in MAPS External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor groups on the first and second discriminant functions, evaluated over their IBI scores.

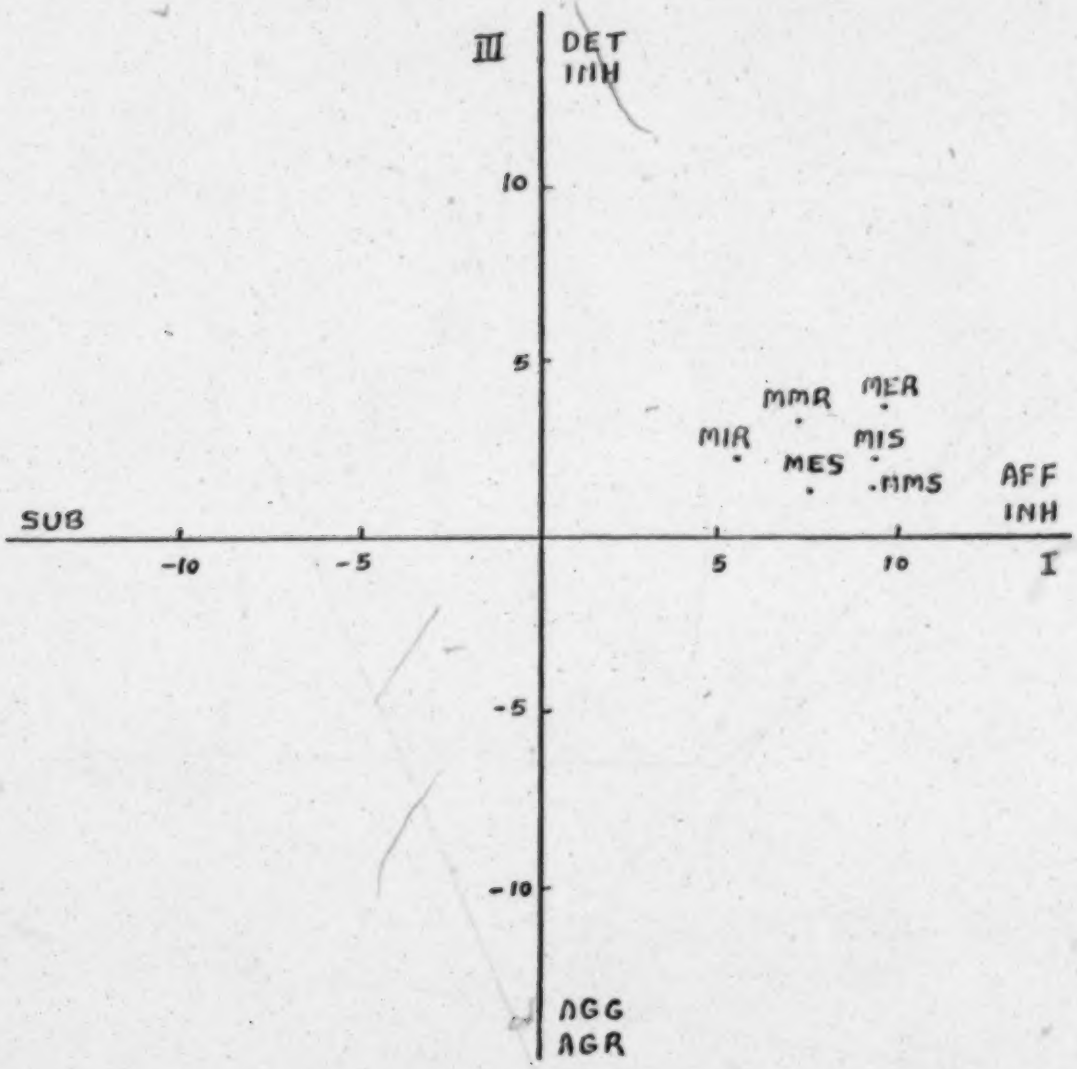


Figure 7. Centroids of Ss in MAPS External Sensitizer, External Repressor, Middle Sensitizer, Middle Repressor, Internal Sensitizer and Internal Repressor groups on the first and third discriminant functions, evaluated over their IBI scores.

TABLE 18

Dimensions of the First, Second and Third Discriminants in I-E and MAPS Groups, Grouped According To Common Variables, and Indicating Groups With Highest Scores

Discriminant Analysis Groups		IBI Variables in Discriminant Dimensions		Groups With Highest Scores on Variables	
I-E	Four Groups	1 - Nurturance	Sociability	NUR:	Internal Sensitizers,
I-E	Six Groups	1 - Nurturance	Sociability	NUR:	Internal Sensitizer,
MAPS	Four Groups	1 - Nurturance	Sociability	NUR:	MAPS Internal Sensitizer
MAPS	Six Groups	11 - Nurturance	Sociability	NUR:	MAPS Internal Sensitizer
I-E	Four Groups	11 - Affection, Inhibition	Agreeableness	AGR:	Internal Repressor
I-E	Six Groups	11 - Affection, Inhibition	Deference	DEF:	Internal Repressor
MAPS	Four Groups	11 - Affection, Inhibition	Submissiveness	AFF, INH:	MAPS External Repressor
MAPS	Six Groups	1 - Affection, Inhibition	Submissiveness	AFF, INH:	MAPS External Repressor
I-E	Four Groups	111 - Affection	Aggression	AFF:	External Repressor; AGG: External Sensitizer
I-E	Six Groups	111 - Affection	Agreeableness, Aggression	AFF:	External Repressor; AGR, AGG: External Sensitizer
MAPS	Four Groups	111 - Affection	Agreeableness, Aggression	AGR, AGG:	MAPS External Sensitizer
MAPS	Six Groups	111 - Detachment, Inhibition	Aggression, Agreeableness,	DET, INH:	MAPS External Repressor